October 15, 1997

Amana®
Heating ▪ Air Conditioning

Packaged Terminal Air Conditioners & Heat Pumps

Architects and Engineers Manual

A rugged, yet versatile new Package Terminal Unit that is ideal for zoned heating and cooling applications such as:

- Hotels & Motels
- Nursing Homes & Assisted Living
- Office Complexes
- Apartments & Condos
- Single dwellings
- Residential add-ons
- Dormitories

A higher standard of comfort

Amana®
Heating ▪ Air Conditioning

Amana Packaged Terminal Air Conditioners

Quality-built Amana High Efficiency Packaged Terminal Units are ideal for motels, hotels, offices, nursing homes, apartments, dormitories or any application that requires individual zone cooling and heating. They provide flexible application, quiet and efficient operation, easy installation, and trouble-free maintenance.

The Amana **Packaged Terminal Unit** is designed to match your application. Its ***stylish design*** and ***slim profile*** maximize valuable room space making it a preferred choice for both new and retrofit installations. And the cabinet's ***neutral color*** makes it compatible with virtually any room decor or achitectural design.

Amana designed the **Packaged Terminal Unit** for complete customer comfort and owner peace of mind. From innovative design to state-of-the-art engineering, the **Amana Standard Advantage** provides the best solutions for all your cooling and heating needs.

Available in a wide range of 230/208 amd 265 volt cooling/electric heat and heat pump models, our units have nominal capacities of ***7,200 to 14,200 Btuh*** and up to 5.0 kW electric resistance heat to meet most applications.

With our unit, installation is a breeze. Amana units fit any industry standard-sized wall sleeve to ***save time*** and ***reduce installation costs***. Once installed, maintenance is a snap -- the front panel tilts forward for easy filter access. For more extensive service, the unit slides out of the sleeve easily for full access to all working components.

Amana Packaged Terminal Units are designed for ***money-saving performance***. Electric cooling/ heating units deliver Energy Efficiency Ratios (EERs)* up to 11.6 that reduce energy consumption and save money compared to standard efficiency units. Heat Pump models feature Coefficients of Performance (COPs)** of up to 3.3.

Thanks to our unique ***sound control system***, operating sounds are nearly unheard. Sounds are absorbed before they can leave the cabinet for unparalleled peace and quiet your guests will enjoy. They'll also appreciate our unit's ***increased dehumidification capabilities***. And so will you since lower humidity often extends the life of room furnishings.

***EER**: Energy Efficient Ratio, a measure of cooling efficiency. The higher the EER, the more efficient the cooling system.*

****COP**: Coefficient of Performance, a measure of heat pump heating efficiency. The higher the COP, the more efficient the heating system.*

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Complete Accessory List

Kit Number	Description	For Additional Information, Refer to Page
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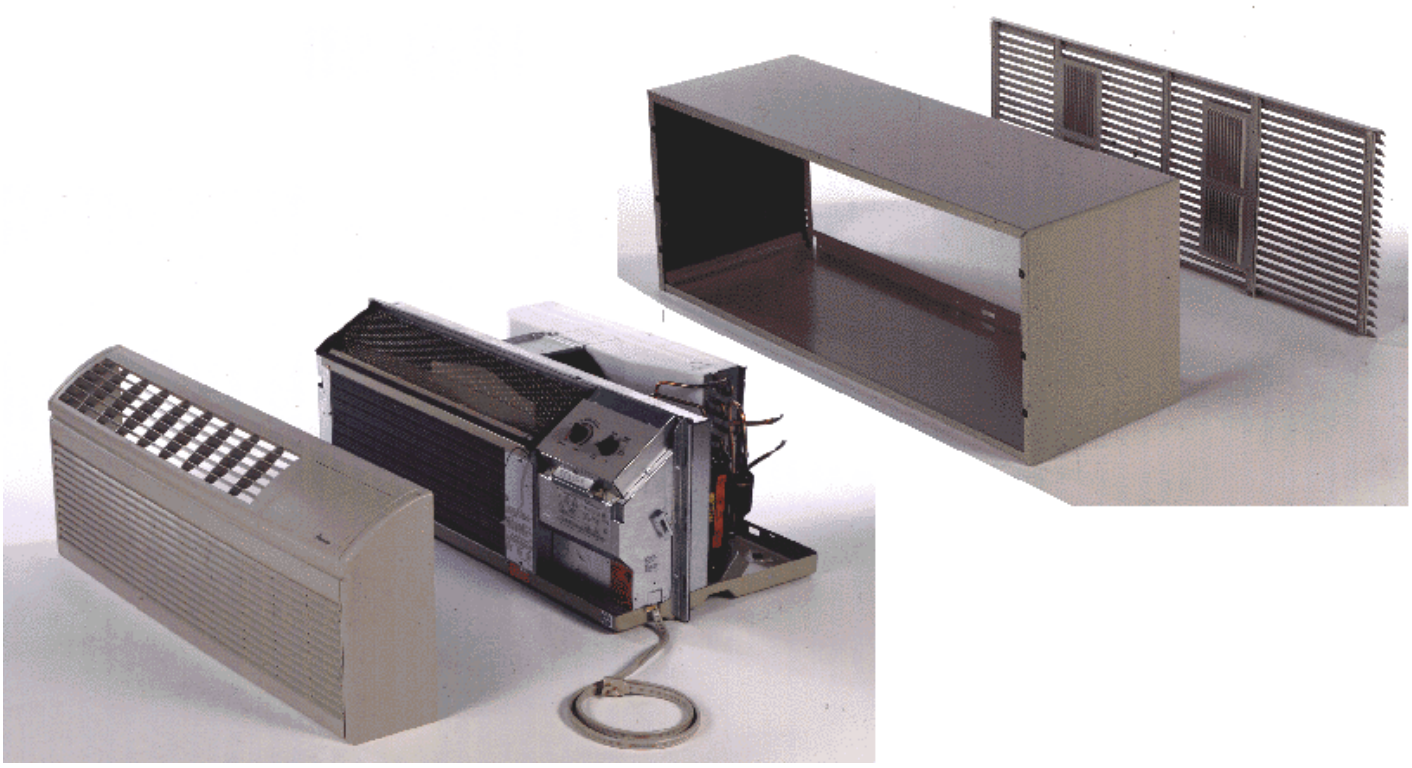
VW3WNOA	Water Valve - 3 way-24V-NO-EndSwitch	A-25

This manual includes complete product, performance, and application information and is designed to assist the architect and engineer in the selection and design of a zonal comfort control system using the **Amana Package Terminal Air Conditioner and Heat Pump**.

The **Amana Package Terminal Air Conditioner and Heat Pump** is a self-contained unit designed for through-the-wall installation in hotels, motels, offices, apartments, offices, medical facilities, and dormitories to provide complete individual room comfort in cooling and heating modes. Our models are suited for virtually any application with cooling capacities ranging from 7,200 to 14,200 Btuh and electric heating capacities from 6,700 to 17,100. Our heat pump models have reverse cycle heating capacities ranging from 6,700 to 13,400.

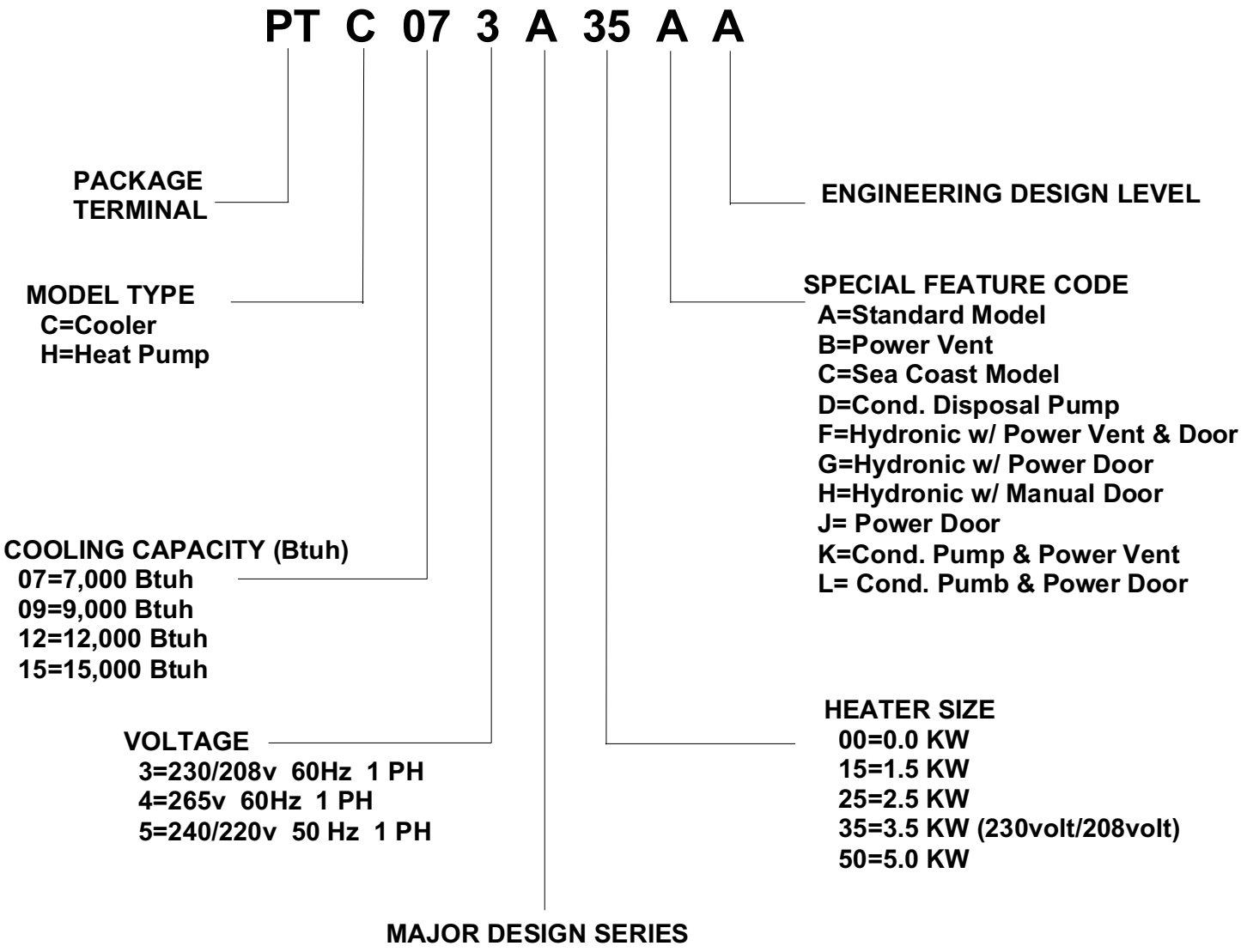
All units are rated in accordance with ARI Standard 310 and 380 and certified by UL and CUL.



Nomenclature

Amana PTAC Model Nomenclature

Amana's Packaged Terminal Unit's are identified by model number which defines the type of unit, cooling capacity, heater size, electrical information and special features. Use this nomenclature when ordering an Amana unit to ensure you receive the correct unit.



Quality is designed and manufactured into every Amana Packaged Terminal Unit. Buying quality products is a smart purchase decision, and it's the surest way to get the most value for your dollars. Once you know Amana quality features and can point them out, you'll find it easy to convince your customers to "buy smart " . . . to buy Amana.

Engineered and built in a place that is registered "World Class."

The ISO 9001 registration is an internationally recognized standard of excellence. Amana's Fayetteville Tennessee manufacturing facility, which builds the Amana Packaged Terminal Unit, was the first in the industry to be awarded this certificate of registration for quality assurance programs.

Fayetteville, Tennessee Manufacturing Facility

All Amana customers are assured of total value with the quality features Amana products provide:

- ✓ *Long life for more value per purchase dollar*
- ✓ *Reliability for trouble-free operation*
- ✓ *Quiet operation for annoyance -free peace of mind*
- ✓ *Versatile, stylish design throughout product life*
- ✓ *Easy maintenance for continued efficient operation*

Standard Features and Benefits

Features	Model Series	
	PTC Models	**PTH Models**
Adjustable Indoor Air Louvers	Standard	Standard
Automatic Compressor Restart Delay	Standard	Standard
Central Desk Control Capability	Standard	Standard
Compressor Restart Delay	Standard	Standard
Concealed Manual Vent Control	Standard	Standard
Cooling EER Range (230/208 - 265 Volts)	**9.2 - 11.6**	**9.0 - 11.5**
Corrosion Treated	Sea Coast Models	Sea Coast Models
Ducted Installation Capability	Standard	Standard
Easily Removable Up-Front Filter	Standard	Standard
Factory Installed Heater	Standard	Standard
Fan Cycle Switch	Continuous/Auto	Continuous/Auto
Fan Motors - Permanently Lubricated	Standard	Standard
Fan Only Setting	Standard	Standard
Field Installed Heater Kit Option	Available	Available
Heat Pump Defrost System		Passive
Heat Pump Internal Condensate Removal (ICR) Option	Accessory Kit Available	Accessory Kit Available
Heat Source - Electric Resistance Heat	Standard	
Heat Source - Heat Pump With Backup Resistance Heat		Standard
Heating COP Range (230/208 - 265 Volts)		**2.8 - 3.3**
Increased Dehumidification Capacity	Standard	Standard
Indoor Fan Speed Selections - Hi/Low	Standard	Standard
Microprocessor Controlled	Standard	Standard
Power Connection	Cord Connected	Cord Connected
Random Restart	Standard	Standard
Remote Control Capability With Wall Mounted Thermostat	Standard	Standard
Room Freeze Protection	Standard	Standard
Rotary Compressor	Standard	Standard
Rotary Control Knobs	Standard	Standard
Staged Heating	Standard	Standard
Temperature Limiting	Standard	Standard
Unit Diagnostics	Accessory Kit Available	Accessory Kit Available
Wall Sleeve 13-3/4" x 42" x 16-1/16"	Accessory Kit Available	Accessory Kit Available
Zero Floor Clearance	Standard	Standard

*Amana has designed the **Packaged Terminal Air Conditioner** for customer comfort and owner peace of mind. No other unit in the industry offers so many "extras" already built in as **"standard"** on every unit. With all the features and benefits our units have to offer, you no longer need to settle for anything less than the **Amana "Standard" Advantage!!***

- Five-Year Warranty
- Energy Efficiencies
- Freeze Protection
- 7" Unit Front
- Versatile Style
- Easy Filter Access
- Remote Thermostat Control
- Increased Dehumidification Capacity
- Quiet Operation
- Easy To Use Controls
- Front Desk Control
- Filtered Ventilation Air
- Remote Temperature Sensing
- Industry Standard Wall Sleeve
- Easy to Service
- Automatic Emergency Heat
- Fan Mode Switch
- Zero Floor Clearance
- Temperature Limiter
- Random Restart
- Compressor Restart Delay

Five-Year Warranty

Enjoy one of the most comprehensive warranties in the industry. Full 1-year warranty on unit parts and labor; full 5-year warranty on the entire sealed system components; limited parts-only warranty on functional components.

Energy Efficiencies

Our units' high efficiencies can qualify you for many of the rebates offered by electrical power companies. EER’s up to 11.5 and heat pump COP’s up to 3.3 keep energy consumption to a minimum.

Freeze Protection

No more worries about bursting water pipes or broken fixtures caused by freezing temperatures. When the unit senses temperatures of 40 degrees Fahrenheit or below, the unit activates the fan motor, and either the electric resistance heater or the hydronic heater.

7" Unit Front

Enhance valuable room space -- the unit front has a sleek 7" depth, one of the shallowest silhouettes in the industry today. In addition, to inhibit guest-tampering, the front can be secured to the chassis with hidden screws.

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Standard Features and Benefits

Versatile Style

Our unit's new stylish design and neutral color make it compatible with virtually any room decor or architectural design. The unit becomes less noticeable as it blends into the room's color scheme.

Increased Dehumidification Capacity

Maintain lower humidity levels in rooms while cooling them without the need for expensive add-on’s. As a result, guests feel more comfortable at higher temperatures, thus reducing cooling costs, and the life of your furniture, wall coverings, and fixtures is extended which means less replacement costs.

Quiet Operation

The unit's state of the art design and construction provide a quiet environment allowing guests to enjoy peaceful, sleep-filled nights. Operating sound levels are further dampened when unit is in ""low fan"" mode of operation.

Compressor Restart Delay

Extended compressor-life. The unit automatically delays any restart attempt by three minutes to allow the refrigerant pressures time to equalize.

Front Desk Control

Obtain greater savings by centrally controlling units and eliminate wasted energy generated by cooling and heating unoccupied rooms. Each unit has low voltage interface capability with a field supplied front desk ON/OFF switch.

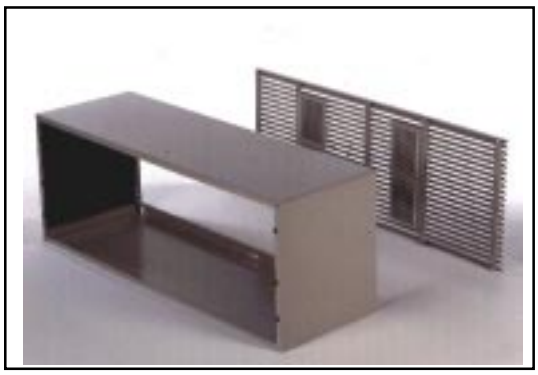
Filtered Ventilation Air

Guest's rooms stay cleaner, longer. The hidden ventilation air intake filters outside air to reduce dust and pollen.

Remote Temperature Sensing

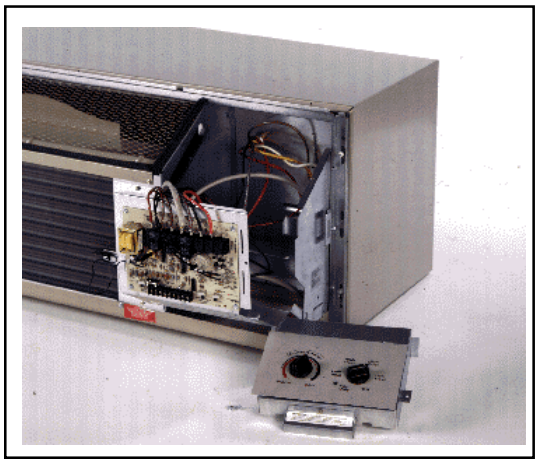
Guests enjoy ultimate comfort with consistent climate control. Attach an optional, inexpensive remote thermistor temperature sensing device and temperatures are held more closely to the chosen room setting.

Wall Sleeve 13-3/4" x 42" x 16-1/16"



No more worries about changing out non-standard sleeves that do not accommodate the bulk of what the industry has to offer. Amana's wall sleeve is an industry standard size of 13-3/4" deep x 42" wide x 16-1/16" high.

Automatic Emergency Heat



No more "my unit is not heating" complaints during the middle of the night. Each unit automatically switches over to electric resistance heat if for any reason the heat pump compressor system fails or if the heating load is greater than the unit capacity.

Easy to Service

The main components are easily serviced; the unit is easy to diagnose or troubleshoot to spot potential problems.

Zero Floor Clearance

Unit can be installed flush to the finished floor, if desired. (Some accessories do not have zero clearance).

Easy to Use Controls

No complex controls to confuse guests and create problems. Controls are easy to read, understand and activate.

Fan Mode Switch

Take advantage of each unit's dual options: select continuous fan operation or cycle the fan ON and OFF with the compressor.

Random Restart

Avoid troublesome power surges that can damage electrical circuits. Each unit has a random restart circuit to prevent all units from restarting at one time after power disruption.

Temperature Limiter

Save energy and money by avoiding the extreme settings that can occur with guest operation. The unit-mounted mechanical temperature limiter allows guests to adjust in-room temperature settings while maintaining a pre-programmed range set by you.

Specifications: Cooling/Heat Pump Electric Heat

PTH Models

Heat Pump Cooling Performance

Model (Basic) (NOTES 1 & 7)	PTH073A**AA	PTH074A**AA	PTH093A**AA	PTH094A**AA	PTH123A**AA	PTH124A**AA	PTH153A**AA	PTH154A**AA
Voltage (NOTE 3)	230/208	265	230/208	265	230/208	265	230/208	265
Capacity (BTUH)	7,400/7,200	7,400	9,000/8,800	9,000	12,000/11,600	12,000	14,000/13,800	14,000
Amps	2.8/3.0	2.0	3.5/3.8	3.0	4.6/5.0	3.7	7.4/7.9	6.5
Watts	625/610	625	810/790	810	1,145/1,125	1,145	1,490/1,470	1,490
EER	11.5	11.5	11.1	11.1	10.6	10.6	9.4	9.4
Units without Electric Heater Min.Circuit Ampacity (NOTES 2 & 4)	*4.0*	*3.6*	*5.1*	*4.4*	*7.3*	*5.7*	*8.4*	*7.7*
CFM (Cool, Wet Coil)								
High	220/215	220	220/215	220	290/270	290	325/315	325
Low	175/155	175	175/155	175	220/190	220	250/220	250
CFM (Dry Coil)								
High	235/230	235	235/230	235	310/290	310	345/335	345
Low	185/165	185	185/165	185	235/205	235	265/235	265
Ventilated Air, CFM (Fan Only)	35*	35*	35*	35*	45*	45*	50*	50*
Dehumidification (Pints/Hr.)	1.9	1.9	2.7	2.7	3.8	3.8	4.4	4.4
Net Weight *(approximate lbs.)*	*110*	*110*	*120*	*120*	*130*	*130*	*140*	*140*
Shipping Weight *(approximate lbs.)*	*130*	*130*	*140*	*140*	*150*	*150*	*160*	*160*

* Approximately 70 CFM with optional power vent kit.

Heating Performance - Reverse Cycle *(See facing page for **Electric Heater Performance** and **Power Cord Configuration**)*

Heating Capacity Reverse Cycle (NOTE 1)		PTH073A**AA	PTH074A**AA	PTH093A**AA	PTH094A**AA	PTH123A**AA	PTH124A**AA	PTH153A**AA	PTH154A**AA
Amps		2.6/3.0	2.2	3.2/3.6	2.6	4.5/5.1	3.9	5.0/5.6	4.1
Watts		560/540	560	770/760	770	1,020/1,000	1,020	1,350/1,320	1,350
BTUH (NOTE 5)		6300/6100	6300	8,400/8,300	8,400	10,800/10,600	10,800	13,400/13,100	13,400
COP (NOTE 5)		3.3	3.3	3.2	3.2	3.1	3.1	2.9	2.9
CFM (Dry)		235/230	235	235/230	234	310/290	310	345/335	345
Heating BTUH (NOTE 5)	° F								
Outdoor Ambient	62	8300/8100	8300	10,600/10,500	10,600	13,200/13,000	13,200	16,500/16,200	16,500
	57	7700/7500	7700	10,000/9,900	10,000	12,400/12,200	12,400	15,500/15,200	15,500
	52	7000/6800	7000	9,300/9,200	9,300	11,600/11,400	11,600	14,400/14,100	14,400
	47	6300/6100	6300	8,400/8,300	8,400	10,800/10,600	10,800	13,400/13,100	13,400
Rating Point (NOTE 5)	(COP)	3.3/3.3	3.3	3.2/3.2	3.2	3.1/3.1	3.1	2.9/2.9	2.9
	42	5600/6400	5600	7,600/7,500	7,600	10,000/9,800	10,000	12,300/12,100	12,300
	37	5000/4800	5000	6,800/6,700	6,800	9,200/9,000	9,200	11,400/11,200	11,400
	32	4400/4200	4400	6,000/5,900	6,000	8,400/8,200	8,400	10,300/10,100	10,300
Watts	62	645/625	645	860/840	860	1,120/1,100	1,120	1,500/1,470	1,500
Outdoor Ambient	57	620/625	620	830/810	830	1,090/1,070	1,090	1,450/1,420	1,450
	52	585/565	585	800/785	800	1,050/1030	1,050	1,400/1,380	1,400
	47	560/540	560	770/760	770	1,020/1,000	1,020	1,350/1,320	1,350
	42	535/525	535	740/730	740	990/970	990	1,290/1,265	1,290
	37	510/500	510	710/700	710	950/930	950	1,225/1,200	1,225
	32	485/475	485	680/670	680	920/900	920	1,170/1,140	1,170

***NOTES**:*

*1. All 265v models must use Amana's subbase (PTSB4**C) or Amana's hard wire kit (PTPWHWK4)*

2. Minimum branch circuit ampacity ratings conform to the National Electric Code. However, local codes should apply.

3. Minimum voltage on 230/208 volt models is 197 volts; maximum is 253 volts. Minimum voltage on 265 volt models is 238.5 volts; maximum is 291.5 volts.

*4. Overcurrent protection for **all units without electric heaters** is 15 amps. Overcurrent protection on 265 volt models must be cartridge-style time delay fuses (included and factory installed on Amana chassis).*

5. Heating capacity and efficiency is based on unit operation without condensate pump. Unit automatically switches to electric heat at 25°F outdoor coil temperature.

*6. Total watts for 15,000 Btuh models; subtract 30 watts for PT12*A**AA, PT07/09*A50AA and 70 watts for PT07/09*A15-35AA.*

7. Please specify 2-digit heater kW size to complete model number.

*8. Total amps for 12,000 and 15,000 Btuh models AND PT07/09*A50AA; subtract 0.2 amps for PT07/09*A15-35AA*

***EER -** Energy Efficiency Ratio per American Refrigeration Institute (ARI) Test Procedures*

***COP** - Coefficiency of Performance per ARI Test Procedures*

PTC Models

Cooling Performance

Model (Basic) (NOTES 1 & 7)	PTC073A**AA	PTC074A**AA	PTC093A**AA	PTC094A**AA	PTC123A**AA	PTC124A**AA	PTC153A**AA	PTC154A**AA
Voltage (NOTE 3)	230/208	265	230/208	265	230/208	265	230/208	265
Capacity (BTUH)	7,500/7,400	7,500	9,000/8,800	9,000	12,200/12,000	12,200	14,200/14,000	14,200
Amps	2.8/3.0	2.0	3.5/3.8	3.0	4.6/5.0	3.7	7.4/7.9	6.5
Watts	625/610	625	810/790	810	1130/1110	1,145	1,510/1,490	1,510
EER	11.6	11.6	11.1	11.1	10.8	10.8	9.4	9.4
Unit without Electric Heater Min.Circuit Ampacity (NOTES 2 & 4)	*4.0*	*3.6*	*5.1*	*4.4*	*7.3*	*5.7*	*8.4*	*7.7*
CFM (Cool, Wet Coil)								
High	220/215	220	220/215	220	290/270	290	325/315	325
Low	175/155	175	175/155	175	220/190	220	250/220	250
CFM (Dry Coil)								
High	235/230	235	235/230	235	310/290	310	345/335	345
Low	185/165	185	185/165	185	235/205	235	265/235	265
Ventilated Air, CFM (Fan Only)	35*	35*	35*	35*	45*	45*	50*	50*
Dehumidification (Pints/Hr.)	1.9	1.9	2.7	2.7	3.8	3.8	4.4	4.4
Net Weight *(approximate Lbs.)*	*110*	*110*	*120*	*120*	*130*	*130*	*140*	*140*
Shipping Weight *(approximate lbs.)*	*130*	*130*	*140*	*140*	*150*	*150*	*160*	*160*

** 70 CFM with optional power vent kit*

Electric Heater Performance (PTC and PTH Models)

(**Primary** for PTC models; **Auxiliary** for PTH models)

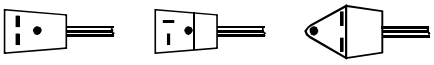
VOLTAGE	ELECTRIC HEATER SIZE (kW)	NO. OF STAGES	NOMINAL HEATING			TOTAL WATTS (NOTE 6)	TOTAL AMPS (NOTE 8)	MIN. CIRCUIT AMPACITY (NOTE 2)	OVERCURRENT PROTECTION (NOTE 4)	POWER CORD
			BTUH AT 230V	BTUH AT 208V	BTUH AT 265V					
230/208V	2.5/2.0	1	8,500	6,800	- -	2,650/2,140	11.5/10.2	14.2	15	6 - 15 P
230/208V	3.5/2.9	1	12,000	9,900	- -	3,650/3,040	15.8/14.5	19.6	20	6 - 20 P
230/208V	5.0/4.1	**	17,100	14,000	- -	5,150/4,240	22.3/20.3	27.7	30	6 - 30 P
265V	2.5	1	- -	- -	8,500	2,650	10.0	12.4	15	7 - 20 P
265V	3.7	1	- -	- -	12,600	3,850	14.6	18.1	20	7 - 20 P
265V	5.0	**	- -	- -	17,100	5,150	19.5	24.2	25	7 - 30 P

***PTC/H07*A**AA and PTC/H09*A**AA are 2-stage; PTC/H12*A**AA and PTC/H15*A**AA are 1-stage.*

All units come with factory installed power cord.

Power Cord Plugs

250V Rating Power Cord Plugs
NEMA 6 Configuration



15 amp **20 amp** **30 amp**

277V Rating Power Cord Plugs
NEMA 7 Configuration

20 amp **30 amp**

Power Receptacle Configuration

NEMA6-15R; 250V receptacle, used on 230/208V units

NEMA6-20R; 250V receptacle, used on 230/208V units

NEMA6-30R; 250V receptacle, used on 230/208V units

NEMA7-20R; 277V receptacle, used on 265V units

NEMA7-30R; 277V receptacle, used on 265V units

Specifications: Cooling/Electric Heat

PTC Models - Performance Data

Air Conditioner

Nominal Unit Size	Wet Bulb Temp. Ent Indoor Coil (°F)	Dry Bulb Temp. Ent Indoor Coil (°F)	208 Volt Outdoor Temperature (°F) 85 Total Btuh	85 Sen Btuh	85 % SH	95 Total Btuh	95 Sen Btuh	95 % SH	105 Total Btuh	105 Sen Btuh	105 % SH	115 Total Btuh	115 Sen Btuh	115 % SH
07	61	75	7065	6025	85	6745	5865	87	6375	5990	94	6035	5850	97
		80	7325	7325	100	7045	7045	100	6630	6630	100	6320	6320	100
		85	7615	7615	100	7435	7435	100	7130	7130	100	6680	6680	100
	67	75	7865	4235	54	7565	4380	58	7060	4385	62	6650	4230	64
		80	7765	5695	73	7400	5555	75	7040	5600	80	6630	5475	83
		85	7810	6950	89	7510	6815	91	7075	6625	94	6690	6690	100
	73	75	8810	3000	34	8335	2960	36	7910	2820	36	7475	2665	36
		80	8715	4210	48	8320	4070	49	7840	4070	52	7410	3925	53
		85	8615	5590	65	8190	5280	64	7765	5120	66	7335	4980	68
09	61	75	8290	6210	75	7850	5995	76	7375	5765	78	6880	5535	80
		80	8240	7310	89	7815	7085	91	7355	6855	93	6970	6970	100
		85	8385	8385	100	8040	8040	100	7675	7675	100	7260	7260	100
	67	75	9405	4950	53	8975	4755	53	8370	4555	54	7810	4460	57
		80	9305	6170	66	8800	5755	65	8260	5545	67	7705	5270	68
		85	9155	7210	79	8725	7085	81	8120	6815	84	7595	6400	84
	73	75	10590	3660	35	10025	3450	34	9445	3240	34	8835	3025	34
		80	10465	4735	45	9910	4530	46	9310	4315	46	8695	4095	47
		85	10330	5805	56	9770	5600	57	9165	5385	59	8545	5170	61
12	61	75	11350	8765	77	10690	8450	79	9940	8105	82	9050	7705	85
		80	11310	10280	91	10650	9955	93	9880	9585	97	9165	9165	100
		85	11600	11600	100	11050	11050	100	10375	10375	100	9665	9665	100
	67	75	12885	6930	54	12310	6685	54	11410	6310	55	10515	5950	57
		80	12745	8370	66	12000	8060	67	11200	7735	69	10275	7395	72
		85	12530	9880	79	11900	9620	81	10990	9275	84	10050	8920	89
	73	75	14575	5045	35	13770	4745	34	12955	4445	34	12025	4115	34
		80	14400	6535	45	13585	6235	46	12755	5935	47	11725	5570	48
		85	14205	8020	56	13410	7730	58	12480	7425	59	11440	7035	61
15	61	75	13245	10205	77	12490	9830	79	11570	9405	81	10610	8940	84
		80	13140	11930	91	12345	11515	93	11395	11045	97	10760	10760	100
		85	13465	13465	100	12775	12775	100	11965	11965	100	11325	11325	100
	67	75	15035	8120	54	14365	7835	55	13280	7345	55	12200	6875	56
		80	14845	9745	66	14000	9375	67	13020	8975	69	11990	8575	72
		85	14575	11455	79	13785	11125	81	12670	10680	84	11790	10370	88
	73	75	16875	5915	35	16120	5625	35	15130	5260	35	14010	4790	34
		80	16780	7655	46	15870	7315	46	14835	6905	47	13635	6445	47
		85	16535	9330	56	15595	8970	58	14530	8610	59	13385	8225	61

PTC Models - Performance Data

Air Conditioner

Nominal Unit Size	Wet Bulb Temp. Ent Indoor Coil (°F)	Dry Bulb Temp. Ent Indoor Coil (°F)	230/265 Volt Outdoor Temperature (°F) 85 Total Btuh	85 Sen Btuh	85 % SH	95 Total Btuh	95 Sen Btuh	95 % SH	105 Total Btuh	105 Sen Btuh	105 % SH	115 Total Btuh	115 Sen Btuh	115 % SH
07	61	75	7165	6125	85	6845	5965	87	6475	6090	94	6135	5950	97
		80	7425	7425	100	7145	7145	100	6730	6730	100	6420	6420	100
		85	7715	7715	100	7535	7535	100	7230	7230	100	6780	6780	100
	67	75	7965	4335	54	7665	4480	58	7160	4485	63	6750	4330	64
		80	7865	5795	74	7500	5655	75	7140	5700	80	6730	5575	83
		85	7910	7050	89	7610	6915	91	7175	6725	94	6790	6790	100
	73	75	8910	3100	35	8435	3060	36	8010	2920	36	7575	2765	37
		80	8815	4310	49	8420	4170	50	7940	4170	53	7510	4025	54
		85	8715	5690	65	8290	5380	65	7865	5220	66	7435	5080	68
09	61	75	8490	6410	76	8050	6195	77	7575	5965	79	7080	5735	81
		80	8440	7510	89	8015	7285	91	7555	7055	93	7170	7170	100
		85	8585	8585	100	8240	8240	100	7875	7875	100	7460	7460	100
	67	75	9605	5150	54	9175	4955	54	8570	4755	55	8010	4660	58
		80	9505	6370	67	9000	5955	66	8460	5745	68	7905	5470	69
		85	9355	7410	79	8925	7285	82	8320	7015	84	7795	6600	85
	73	75	10790	3860	36	10225	3650	36	9645	3440	36	9035	3225	36
		80	10665	4935	46	10110	4730	47	9510	4515	47	8895	4295	48
		85	10530	6005	57	9970	5800	58	9365	5585	60	8745	5370	61
12	61	75	11550	8965	78	10890	8650	79	10140	8305	82	9250	7905	85
		80	11510	10480	91	10850	10155	94	10080	9785	97	9365	9365	100
		85	11800	11800	100	11250	11250	100	10575	10575	100	9865	9865	100
	67	75	13085	7130	54	12510	6885	55	11610	6510	56	10715	6150	57
		80	12945	8570	66	12200	8260	68	11400	7935	70	10475	7595	73
		85	12730	10080	79	12100	9820	81	11190	9475	85	10250	9120	89
	73	75	14775	5245	35	13970	4945	35	13155	4645	35	12225	4315	35
		80	14600	6735	46	13785	6435	47	12955	6135	47	11925	5770	48
		85	14405	8220	57	13610	7930	58	12680	7625	60	11640	7235	62
15	61	75	13445	10405	77	12690	10030	79	11770	9605	82	10810	9140	85
		80	13340	12130	91	12545	11715	93	11595	11245	97	10960	10960	100
		85	13665	13665	100	12975	12975	100	12165	12165	100	11525	11525	100
	67	75	15235	8320	55	14565	8035	55	13480	7545	56	12400	7075	57
		80	15045	9945	66	14200	9575	67	13220	9175	69	12190	8775	72
		85	14775	11655	79	13985	11325	81	12870	10880	85	11990	10570	88
	73	75	17075	6115	36	16320	5825	36	15330	5460	36	14210	4990	35
		80	16980	7855	46	16070	7515	47	15035	7105	47	13835	6645	48
		85	16735	9530	57	15795	9170	58	14730	8810	60	13585	8425	62

Specifications: Cooling/Heat Pump Electric Heat

PTH Models - Performance Data

Heat Pump

Nominal Unit Size	Wet Bulb Temp. Ent Indoor Coil (°F)	Dry Bulb Temp. Ent Indoor Coil (°F)	208 Volt Outdoor Temperature (°F) 85 Total Btuh	85 Sen Btuh	85 % SH	95 Total Btuh	95 Sen Btuh	95 % SH	105 Total Btuh	105 Sen Btuh	105 % SH	115 Total Btuh	115 Sen Btuh	115 % SH
07	61	75	6870	5840	85	6555	5685	87	6185	5810	94	5855	5670	97
		80	7125	7125	100	6850	6850	100	6440	6440	100	6135	6135	100
		85	7415	7415	100	7230	7230	100	6930	6930	100	6490	6490	100
	67	75	7660	4080	53	7360	4220	57	6865	4225	62	6460	4075	63
		80	7560	5520	73	7200	5375	75	6845	5425	79	6440	5300	82
		85	7605	6755	89	7310	6625	91	6880	6435	94	6500	6500	100
	73	75	8590	2860	33	8120	2820	35	7705	2680	35	7275	2530	35
		80	8500	4055	48	8110	3915	48	7630	3910	51	7210	3775	52
		85	8400	5415	64	7980	5110	64	7560	4955	66	7135	4810	67
09	61	75	8290	6120	74	7840	5900	75	7350	5660	77	6855	5420	79
		80	8225	7175	87	7785	6945	89	7315	6705	92	6810	6790	100
		85	8285	8285	100	7920	7920	100	7525	7525	100	7105	7105	100
	67	75	9420	4905	52	8960	4775	53	8360	4500	54	7785	4400	57
		80	9305	5890	63	8800	5660	64	8250	5485	66	7675	5170	67
		85	9145	7085	77	8710	6945	80	8095	6670	82	7520	6400	85
	73	75	10610	3675	35	10050	3465	34	9450	3245	34	8835	3020	34
		80	10480	4705	45	9920	4495	45	9315	4275	46	8690	4050	47
		85	10345	5730	55	9775	5520	56	9165	5300	58	8535	5075	59
12	61	75	10965	8415	77	10310	8110	79	9575	7770	81	8700	7375	85
		80	10920	9910	91	10275	9590	93	9515	9225	97	8810	8810	100
		85	11205	11205	100	10665	10665	100	10000	10000	100	9305	9305	100
	67	75	12470	6610	53	11905	6370	54	11020	6005	54	10140	5650	56
		80	12330	8030	65	11600	7725	67	10815	7405	68	9900	7070	71
		85	12125	9515	78	11505	9260	80	10605	8915	84	9680	8575	89
	73	75	14135	4760	34	13345	4465	33	12540	4170	33	11625	3845	33
		80	13960	6220	45	13160	5930	45	12340	5630	46	11330	5275	47
		85	13770	7685	56	12990	7400	57	12070	7100	59	11050	6720	61
15	61	75	13055	10055	77	12310	9690	79	11405	9270	81	10460	8815	84
		80	12955	11755	91	12170	11350	93	11230	10885	97	10605	10605	100
		85	13275	13275	100	12590	12590	100	11795	11795	100	11165	11165	100
	67	75	14820	8000	54	14160	7720	55	13090	7240	55	12025	6775	56
		80	14635	9605	66	13800	9240	67	12830	8845	69	11820	8450	71
		85	14370	11290	79	13585	10970	81	12485	10530	84	11620	10220	88
	73	75	16635	5825	35	15890	5540	35	14915	5185	35	13810	4720	34
		80	16540	7545	46	15645	7210	46	14625	6805	47	13440	6355	47
		85	16300	9195	56	15370	8845	58	14320	8490	59	13195	8105	61

PTH Models - Performance Data

Heat Pump

Nominal Unit Size	Wet Bulb Temp. Ent Indoor Coil (°F)	Dry Bulb Temp. Ent Indoor Coil (°F)	230/265 Volt Outdoor Temperature (°F) 85 Total Btuh	85 Sen Btuh	85 % SH	95 Total Btuh	95 Sen Btuh	95 % SH	105 Total Btuh	105 Sen Btuh	105 % SH	115 Total Btuh	115 Sen Btuh	115 % SH
07	61	75	7070	6040	85	6755	5885	87	6385	6010	94	6055	5870	97
		80	7325	7325	100	7050	7050	100	6640	6640	100	6335	6335	100
		85	7615	7615	100	7430	7430	100	7130	7130	100	6690	6690	100
	67	75	7860	4280	54	7560	4420	58	7065	4425	63	6660	4275	64
		80	7760	5720	74	7400	5575	75	7045	5625	80	6640	5500	83
		85	7805	6955	89	7510	6825	91	7080	6635	94	6700	6700	100
	73	75	8790	3060	35	8320	3020	36	7905	2880	36	7475	2730	37
		80	8700	4255	49	8310	4115	50	7830	4110	52	7410	3975	54
		85	8600	5615	65	8180	5310	65	7760	5155	66	7335	5010	68
09	61	75	8490	6320	74	8040	6100	76	7550	5860	78	7055	5620	80
		80	8425	7375	88	7985	7145	89	7515	6905	92	7010	6990	100
		85	8485	8485	100	8120	8120	100	7725	7725	100	7305	7305	100
	67	75	9620	5105	53	9160	4975	54	8560	4700	55	7985	4600	58
		80	9505	6090	64	9000	5860	65	8450	5685	67	7875	5370	68
		85	9345	7285	78	8910	7145	80	8295	6870	83	7720	6600	85
	73	75	10810	3875	36	10250	3665	36	9650	3445	36	9035	3220	36
		80	10680	4905	46	10120	4695	46	9515	4475	47	8890	4250	48
		85	10545	5930	56	9975	5720	57	9365	5500	59	8735	5275	60
12	61	75	11365	8815	78	10710	8510	79	9975	8170	82	9100	7775	85
		80	11320	10310	91	10675	9990	94	9915	9625	97	9210	9210	100
		85	11605	11605	100	11065	11065	100	10400	10400	100	9705	9705	100
	67	75	12870	7010	54	12305	6770	55	11420	6405	56	10540	6050	57
		80	12730	8430	66	12000	8125	68	11215	7805	70	10300	7470	73
		85	12525	9915	79	11905	9660	81	11005	9315	85	10080	8975	89
	73	75	14535	5160	36	13745	4865	35	12940	4570	35	12025	4245	35
		80	14360	6620	46	13560	6330	47	12740	6030	47	11730	5675	48
		85	14170	8085	57	13390	7800	58	12470	7500	60	11450	7120	62
15	61	75	13255	10255	77	12510	9890	79	11605	9470	82	10660	9015	85
		80	13155	11955	91	12370	11550	93	11430	11085	97	10805	10805	100
		85	13475	13475	100	12790	12790	100	11995	11995	100	11365	11365	100
	67	75	15020	8200	55	14360	7920	55	13290	7440	56	12225	6975	57
		80	14835	9805	66	14000	9440	67	13030	9045	69	12020	8650	72
		85	14570	11490	79	13785	11170	81	12685	10730	85	11820	10420	88
	73	75	16835	6025	36	16090	5740	36	15115	5385	36	14010	4920	35
		80	16740	7745	46	15845	7410	47	14825	7005	47	13640	6555	48
		85	16500	9395	57	15570	9045	58	14520	8690	60	13395	8305	62

Latent System Capacity

For complete comfort in indoor climate-controlled areas, two important factors must be considered: temperature and humidity. Controlling one without the other, lessens the comfort factor considerably. Working with these factors lends itself to a discussion of the total capacity of an air conditioner. An air conditioner's total capacity is comprised of two parts: the **Sensible Capacity**, the energy of the unit being used to remove heat from the air in the indoor area; and the **Latent Capacity**, the energy of the unit being used to dehumidify the air in the indoor area. For applications in climates where humidity is high, the sensible/latent capacities should be considered. On pages 14-17 specifications in varying conditions are given for sensible capacity under the heading (%SH). Considering total capacity of the unit to be 100 percent, the latent capacity is 1.00 minus sensible capacity, or **LATENT = 1.00 - (%SH)**

Example: Data taken from:

PTC Model Unit Size 9 (page 14)

95º F - Outdoor Temperature

80ºF - Indoor Dry Bulb Temperature

67º - Indoor Wet Bulb Temperature

%SH = 65

(That is, **65% Sensible Capacity**)

Latent Capacity = 1.00 - **SENSIBLE CAPACITY**

OR,

Latent Capacity = 1.00-.65

Latent Capacity = .35 OR

35% LATENT CAPACITY

Nominal Unit Size	Wet Bulb Temp. Ent Indoor Coil (°F)	Dry Bulb Temp. Ent Indoor Coil (°F)	Outdoor Temperat 85 Total Btuh	85 Sen Btuh	85 % SH	95 Total Btuh	95 Sen Btuh	95 % SH	Tota Btu
07	61	75	7065	6025	85	6745	5865	87	63
		80	7325	7325	100	7045	7045	100	66
		85	7615	7615	100	7435	7435	100	71
	67	75	7865	4235	54	7565	4380	58	70
		80	7765	5695	73	7400	5555	75	70
		85	7810	6950	89	7510	6815	91	70
	73	75	8810	3000	34	8335	2960	36	79
		80	8715	4210	48	8320	4070	49	78
		85	8615	5590	65	8190	5280	64	77
09	61	75	8290	6210	75	7850	5995	76	73
		80	8240	7310	89	7815	7085	91	73
		85	8385	8385	100	8040	8040	100	76
	67	75	9405	4950	53	8975	[illegible]	[illegible]	83
		80	9305	6170	66	8800	5755	65	82
		85	9155	7210	79	8725	[illegible]	[illegible]	81
	73	75	10590	3660	35	10025	3450	34	94
		80	10465	4735	45	9910	4530	46	93
		85	10330	5805	56	9770	5600	57	91

This means that 65% of the unit's capacity is used to remove heat from the air in the indoor area. The remaining 35% is used to dehumidify the air in that area.

Each of the four charts listed to the right, represent a different unit size. They are 7, 9, 12 and 15, respectively. All demonstrate varying latent capacity of the units at a standard 95º F outdoor temperature. Differing indoor dry bulb temperatures are listed across the bottom of each chart. The latent percent of total capacity is listed to the left. To read the chart, simply determine the dry bulb temperature being considered, then draw a vertical line toward the top of the chart. The converging point of the vertical line and the diagonal line representing the wet bulb temperature of the area (61º, 67º or 73º) demonstrate the latent percentage of total capacity as read to the left of the chart.

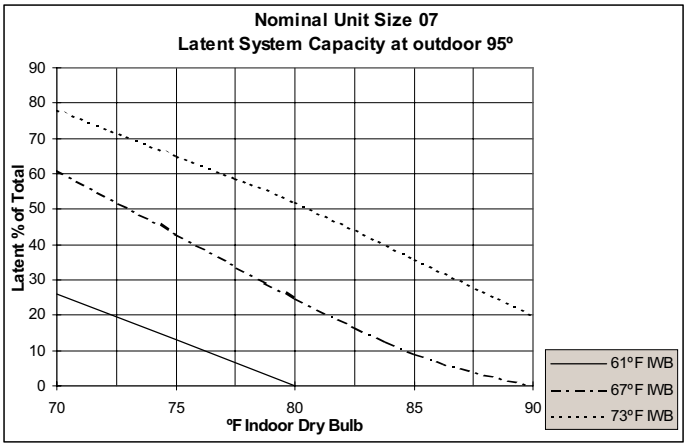
What it means . . .

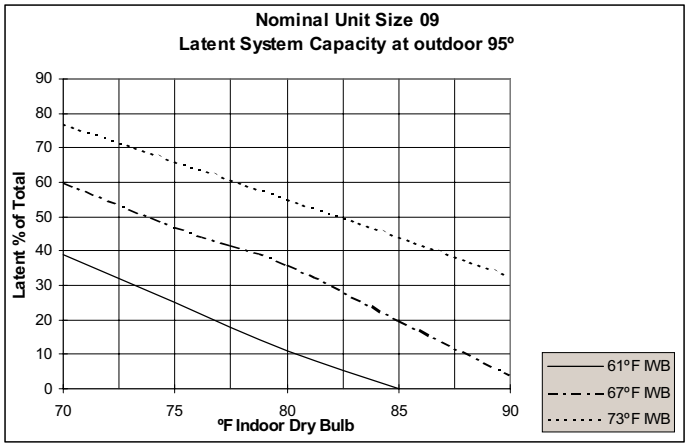
For those in moderate to high humidity areas, determining the proper Latent System Capacity for a particular application can mean more than room comfort at any given time. It can also mean extensive savings on furnishings. When an improper determination of the latent system capacity is made, the humidity level of the room can soar, thereby causing a number of problems for the property owner. In addition to the “dirty-socks” smell of a dank and damp room there are the passive, however labor-intensive and, therefore, costly problems of additional accumulated mold and mildew in bathroom and kitchen areas.

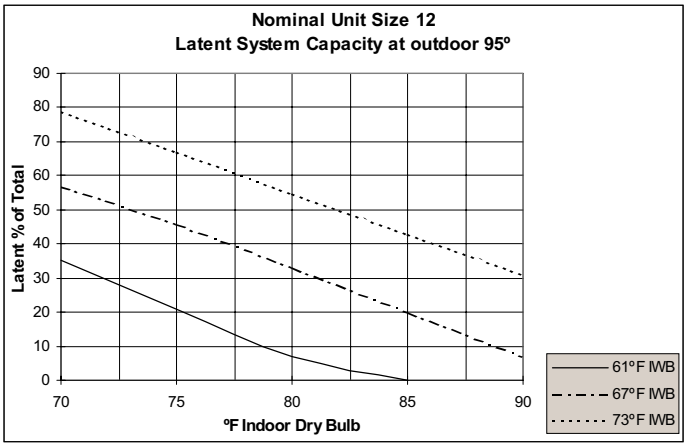
Worse, still, is the expensive and time-consuming moisture damage that can occur to curtains, carpets, furniture and wood work. Both mold and mildew thrive in a damp environment, weakening fabrics and ruining wood products. The replacement/restoration rate for furnishings in areas such as these may be higher than the norm, thereby affecting profit margins.

Over time, however, the problem can worsen to the point of affecting the area structurally. The major time and expense factors in such a scenario can be quite costly.

Latent System Capacity







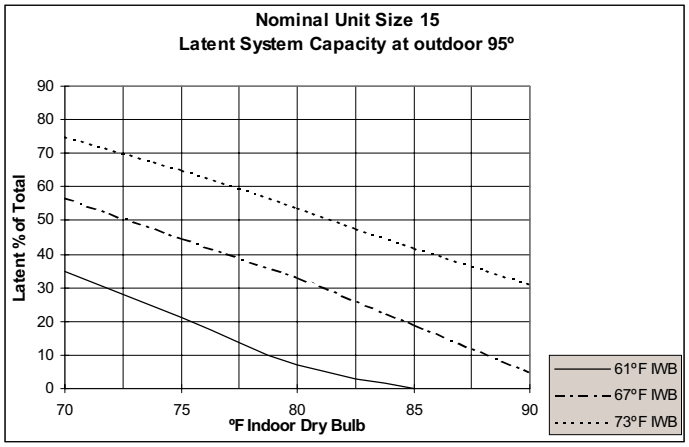


TABLE 1 — SUMMER WEATHER CONDITIONS

STATE AND CITY	OUTSIDE % R.H.	SUMMER DESIGN DRY BULB °F.	DAILY TEMP. RANGE °F.	SUMMER DESIGN WET BULB °F.
ALABAMA				
Birmingham	49	94	20	78
Mobile	55	93	20	79
Montgomery	48	95	20	79
ARIZONA				
Flagstaff	28	82	30	60
Phoenix	22	106	30	76
Tucson	21	102	25	73
Winslow	17	95	30	65
Yuma	22	109	25	78
ARKANSAS				
Fort Smith	47	99	25	78
Little Rock	43	96	20	79
CALIFORNIA				
Bakersfield	19	101	30	71
Fresno	20	99	35	72
Los Angeles, CO	41	98	20	70
Oakland	47	81	20	63
Sacramento	24	97	35	70
San Diego	53	83	15	70
San Francisco, CO	34	77	20	62
COLORADO				
Denver	18	90	30	64
Grand Junction	15	94	30	63
Pueblo	24	94	30	67
CONNECTICUT				
Hartford, Brainard Field	62	88	20	76
New Haven	73	86	20	76
D.C. WASHINGTON, NATIONAL	47	92	15	77
FLORIDA				
Jacksonville	50	94	20	79
Miami	63	90	15	79
Tampa	53	91	15	80
GEORGIA				
Atlanta	47	92	20	77
Macon	50	96	20	79
Savannah, Travis AP	55	94	20	80
IDAHO				
Boise	20	93	30	66
Idaho Falls	28	88	40	64
ILLINOIS				
Chicago, Midway	43	92	20	76
Moline	46	91	25	77
Peoria	48	92	20	77
Springfield	47	92	20	78
INDIANA				
Evansville	44	94	20	78
Indianapolis	57	91	20	77
IOWA				
Cedar Rapids	48	90	20	76
Des Moines	49	92	20	77
Ottumwa	48	93	20	78
Sioux City	48	93	20	77
Marshalltown	48	91	25	77
KANSAS				
Topeka	40	96	25	78
Wichita	33	99	20	76
KENTUCKY				
Louisville	55	93	20	78
LOUISIANA				
Lake Charles	51	93	15	79
New Orleans	57	91	15	80
Shreveport	48	96	20	80
MAINE				
Bangor, Dow AFB	55	85	20	73
MARYLAND				
Baltimore, CO	58	92	20	78
MASSACHUSETTS				
Boston	53	88	15	74
MICHIGAN				
Detroit	44	88	20	75
Sault Ste. Marie	57	81	25	71
MINNESOTA				
Minneapolis	52	89	20	75
Rochester	45	88	20	75
MISSISSIPPI				
Biloxi, Keesler AFB	63	92	15	81
Jackson	50	96	20	78
MISSOURI				
Kansas City	37	97	20	77
St. Louis, CO	40	94	15	78
Springfield	37	94	20	77
MONTANA				
Billings	28	91	30	66
Butte	21	83	30	59
Great Falls	20	88	30	63
NEBRASKA				
Lincoln, CO	37	96	25	77
North Platte	29	94	25	73
Omaha	40	94	20	78
NEVADA				
Las Vegas	16	106	30	71
Reno	13	92	30	62
NEW HAMPSHIRE				
Concord	55	88	25	73
NEW JERSEY				
Trenton	53	90	20	77
Newark	51	91	20	76
NEW MEXICO				
Albuquerque	18	94	25	65
Roswell, Walker AFB	22	99	25	70
NEW YORK				
Albany	50	88	20	74
Buffalo	53	86	20	73
Elmira	56	90	20	73
New York, La Guardia AP	47	90	15	76
Rochester	53	88	20	74
Syracuse	57	87	20	74
NORTH CAROLINA				
Charlotte	52	94	20	77
Greensboro	54	91	20	76
Raleigh/Durham	49	92	20	78
Wilmington	66	91	15	81
NORTH DAKOTA				
Bismarck	38	91	30	72
Fargo	37	88	25	74
Grand Forks	41	87	25	72
OHIO				
Akron/Canton	57	87	20	73
Cincinnati, CO	46	92	20	77
Cleveland	43	89	20	75
Columbus	52	88	20	76
Dayton	48	90	20	75
Youngstown	60	86	20	74
OKLAHOMA				
Ardmore	43	101	20	78
Oklahoma City	35	97	20	77
Tulsa	37	99	20	78
OREGON				
Baker	27	92	30	65
Eugene	38	88	30	67
Medford	28	94	35	68
Portland	33	88	20	68
PENNSYLVANIA				
Erie	66	85	20	74
Harrisburg	50	89	20	75
Philadelphia	56	90	20	77
Pittsburg	46	87	20	74
RHODE ISLAND				
Providence	47	86	15	75
SOUTH CAROLINA				
Charleston, AFB	57	92	15	80
Columbia	57	96	20	79
SOUTH DAKOTA				
Huron	33	93	30	75
Rapid City	28	94	25	71
TENNESSEE				
Chattanooga	48	94	20	78
Knoxville	43	92	20	76
Memphis	44	96	20	79
TEXAS				
Abilene	34	99	20	75
Amarillo	29	96	25	71
Austin	40	98	20	78
Brownsville	54	93	15	80
Dallas	38	99	20	78
El Paso	22	98	25	69
Ft. Worth	32	100	20	78
Houston	47	94	15	80
Laredo, AFB	48	101	20	78
San Antonio	37	97	20	77
UTAH				
Ogden, CO	25	92	30	65
Salt Lake City	18	94	30	66
VERMONT				
Burlington	50	85	25	73
VIRGINIA				
Richmond	57	93	20	78
Norfolk	59	91	15	78
Roanoke	53	91	20	75
WASHINGTON				
Seattle, CO	42	76	20	65
Spokane	20	90	25	64
WEST VIRGINIA				
Charleston	45	90	20	75
WISCONSIN				
Green Bay	42	85	20	73
La Crosse	46	88	20	76
Madison	58	88	20	75
Milwaukee	54	87	20	75
WYOMING				
Cheyenne	22	86	25	62
Rock Springs	13	84	25	57

All dry bulb temperatures taken at airport unless otherwise noted.
CO = urban area AFB = Air Force Base.

New Data to be inserted.

TABLE 2 — WINTER WEATHER CONDITIONS

STATE AND CITY(a)	MEDIUM OF ANNUAL EXTREMES	97½%	COINCIDENT WIND VELOCITY*
ALABAMA			
Birmingham AP	14	22	L
Mobile AP	21	29	M
Montgomery AP	18	26	L
ARIZONA			
Flagstaff AP	-10	5	VL
Phoenix AP	25	34	VL
Tucson AP	23	32	VL
Winslow AP	2	13	VL
Yuma AP	32	40	VL
ARKANSAS			
Fort Smith AP	9	19	M
Little Rock AP	13	23	M
CALIFORNIA			
Bakersfield AP	26	33	VL
Fresno AP	25	31	VL
Los Angeles CO	38	44	VL
Oakland AP	30	37	VL
Sacramento AP	24	32	VL
San Diego AP	38	44	VL
San Francisco CO	38	44	VL
COLORADO			
Denver AP	- 9	3	L
Grand Junction AP	- 2	11	VL
Pueblo AP	-14	- 1	L
CONNECTICUT			
Hartford, Brainard Field	- 4	5	M
New Haven AP	0	9	H
D.C., WASHINGTON NATIONAL AP	12	19	M
FLORIDA			
Jacksonville AP	26	32	L
Miami AP	39	47	M
Tampa	32	39	M
GEORGIA			
Atlanta AP	14	23	H
Macon AP	18	27	L
Savannah, Travis AP	21	27	L
IDAHO			
Boise AP	0	10	L
Idaho Falls AP	-17	- 6	VL
ILLINOIS			
Chicago, Midway AP	- 7	1	M
Moline AP	-12	- 3	M
Peoria AP	- 8	2	M
Springfield AP	- 7	4	M
INDIANA			
Evansville AP	1	10	M
Indianapolis AP	- 5	4	M
IOWA			
Cedar Rapids AP	-14	- 4	M
Des Moines AP	-13	- 3	M
Ottumwa AP	-12	- 2	M
Sioux City AP	-17	- 6	M
Marshalltown	-16	- 6	M
KANSAS			
Topeka AP	- 4	6	M
Wichita AP	- 1	9	H
KENTUCKY			
Louisville AP	1	12	L
LOUISIANA			
Lake Charles AP	25	33	M
New Orleans AP	29	35	M
Shreveport AP	18	26	M
MAINE			
Bangor, Dow AFB	-14	- 4	M
MARYLAND			
Baltimore, CO	12	20	M
MASSACHUSETTS			
Boston AP	- 1	10	H
MICHIGAN			
Detroit Metcap	0	8	M
Sault Ste. Marie AP	-18	- 8	L
MINNESOTA			
Minneapolis AP	-19	-10	L
Rochester AP	-23	-13	M
MISSISSIPPI			
Biloxi Keesler AFB	26	32	M
Jackson AP	17	24	L
MISSOURI			
Kansas City AP	- 2	8	M
St. Louis CO	1	11	M
Springfield AP	0	10	M
MONTANA			
Billings AP	-19	- 6	L
Butte AP	-34	-16	VL
Great Falls AP	-29	-16	L
NEBRASKA			
Lincoln CO	-10	0	M
North Platte AP	-13	- 2	M
Omaha AP	-16	- 4	M
NEVADA			
Las Vegas AP	18	26	VL
Reno			VL

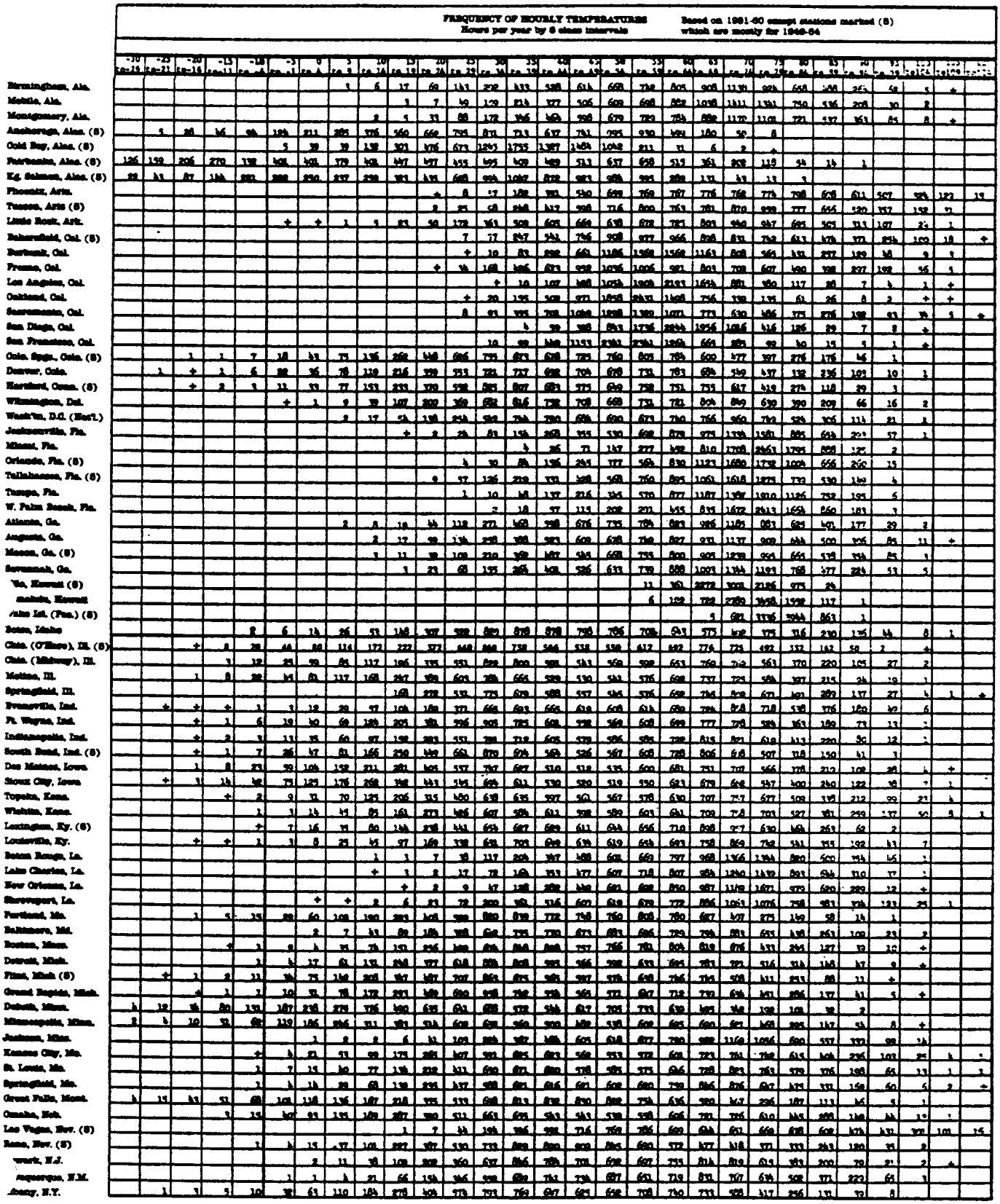
STATE AND CITY(a)	MEDIUM OF ANNUAL EXTREMES	97½%	COINCIDENT WIND VELOCITY*
NEW HAMPSHIRE			
Concord AP	-17	- 7	M
NEW JERSEY			
Trenton CO	7	16	M
Newark AP	6	15	M
NEW MEXICO			
Albuquerque AP	6	17	L
Roswell Walker AFB	5	19	L
NEW YORK			
Albany AP	-14	0	L
Buffalo AP	- 3	6	M
Elmira AP	- 5	5	L
New York LaGuardia AP	7	16	H
Rochester AP	- 5	5	M
Syracuse AP	-10	2	M
NORTH CAROLINA			
Charlotte AP	13	22	L
Greensboro AP	9	17	L
Raleigh/Durham AP	13	20	L
Wilmington AP	19	27	L
NORTH DAKOTA			
Bismarck AP	-31	-19	VL
Fargo AP	-28	-17	L
Grand Forks AP	-30	23	L
OHIO			
Akron/Canton AP	- 5	6	M
Cincinnati CO	2	12	L
Cleveland AP	- 2	7	M
Columbus AP	- 1	7	M
Dayton AP	- 2	6	M
Youngstown AP	- 5	6	M
OKLAHOMA			
Ardmore	9	19	H
Oklahoma City AP	4	15	H
Tulsa AP	4	16	H
OREGON			
Baker AP	-10	1	VL
Eugene AP	16	26	VL
Medford AP	15	23	VL
Portland CO	21	29	L
PENNSYLVANIA			
Erie AP	1	11	M
Harrisburg AP	4	13	L
Philadelphia AP	7	15	M
Pittsburgh AP	- 1	9	M
RHODE ISLAND			
Providence AP	0	10	M
SOUTH CAROLINA			
Charleston AFB	19	27	L
Columbia AP	16	23	L
SOUTH DAKOTA			
Huron AP	-24	-12	L
Rapid City AP	-17	- 6	M
TENNESSEE			
Chattanooga AP	11	19	L
Knoxville AP	9	17	L
Memphis AP	11	21	L
TEXAS			
Abilene AP	12	21	M
Amarillo AP	2	12	M
Austin AP	19	29	M
Brownsville AP	32	40	M
Dallas AP	14	24	H
El Paso AP	16	25	L
Ft. Worth AP	14	24	H
Houston CO	24	33	M
Laredo AFB	29	36	L
San Antonio AP	22	30	L
UTAH			
Ogden, CO	- 3	11	VL
Salt Lake City AP	- 2	9	L
VERMONT			
Burlington AP	-18	- 7	M
VIRGINIA			
Richmond AP	10	18	L
Norfolk AP	18	23	M
Roanoke AP	9	18	L
WASHINGTON			
Seattle CO	14	32	L
Spokane AP	- 5	4	VL
WEST VIRGINIA			
Charleston AP	1	14	L
WISCONSIN			
Green Bay AP	-16	- 7	M
La Crosse AP	-18	- 8	M
Madison AP	-13	- 5	M
Milwaukee AP	-11	- 2	M
WYOMING			
Cheyenne AP	-15	- 2	M
Rock Springs AP	-16	- 1	VL

(a) When airport temperature observations were used to develop design data, "AP" follows city, "AFB" follows Air Force Bases, and "CO" follows office locations within an urban area.

*Coincidental wind velocities derived from approximately coldest 600 hours out of 20,000 hours of December through February data per station VL — Very Light 70% or more. Extreme cold hours ≤ 7 mph. L — Light 50 to 69% cold extreme hours ≤ 7 mph. M — Moderate, 50 to 74% — Cold extreme hours ≤ 7 mph. H — High, 75% or more cold extreme hours ≤ 7 mph. 50% are ≤ 12 mph.

New Data to be inserted.

TABLE 3 — FREQUENCY OF HOURLY TEMPERATURES



New Data to be inserted.

FREQUENCY OF HOURLY TEMPERATURES

	-30 to -26	-25 to -21	-20 to -16	-15 to -11	-10 to -6	-5 to -1	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85 to 89	90 to 94	95 to 99	100 to 104	105 to 109	110 to 114
Binghton, N.Y. (S)			1	1	5	23	67	156	263	350	515	658	873	666	508	595	673	694	808	781	586	318	145	31	2				
Buffalo, N.Y.					2	24	5	81	170	287	486	608	849	756	647	624	666	700	760	778	696	422	242	80	16	1			
New York (Int'l), N.Y.							1	10	26	2	188	330	601	858	830	796	722	745	754	877	926	604	263	96	28	5	+		
New York (LaGua), N.Y.						+	1	10	28	95	183	312	586	838	797	743	718	730	743	829	876	683	383	189	59	15	1		
Rochester, N.Y.			+	1	2	9	36	97	181	298	430	596	891	761	668	648	631	695	734	738	607	398	246	122	41	7			
Syracuse, N.Y.		+	2	2	5	23	55	108	190	288	398	547	830	720	651	641	646	717	783	735	607	448	269	122	32	3			
Charlotte, N.C.								2	5	23	64	166	360	515	636	684	730	758	839	908	1115	747	567	397	203	58	5		
Greensboro, N.C.							2	4	22	58	138	284	498	611	651	668	696	734	827	983	1033	660	498	337	125	20	1		
Raleigh, N.C.								1	11	38	103	236	410	527	638	672	707	768	868	977	1087	715	518	353	161	34	4		
Winston-Salem, N.C. (S)							1	4	18	43	116	284	456	608	708	704	710	684	801	907	1086	703	518	383	165	7			
Bismarck, N.D.	8	20	47	77	131	208	278	288	298	371	478	590	693	604	518	580	563	606	614	566	454	357	259	141	78	28	5	1	
Fargo, N.D.																													
Akron-Canton Apt., Ohio				+	5	11	38	87	153	286	489	646	837	697	630	616	633	686	778	839	675	437	273	112	24	3	+		
Cincinnati, Ohio					2	8	18	46	68	171	280	460	711	608	607	599	611	639	726	841	877	630	447	261	94	17	1		
Cleveland, Ohio					1	23	9	38	108	198	346	581	809	760	614	615	633	645	733	831	781	568	331	155	56	8	+		
Columbus, Ohio				1	4	10	20	40	88	160	280	508	772	730	648	609	602	648	720	820	778	556	405	235	90	15	1		
Dayton, Ohio			+	1	3	16	29	55	99	182	309	558	786	668	608	576	580	667	717	832	817	607	408	208	65	8	1		
Youngstown, Ohio					2	10	21	63	108	210	380	604	840	680	604	600	668	668	773	891	841	621	366	169	21	2			
Oklahoma City, Okla.						1	3	12	36	77	173	287	468	570	641	611	654	643	717	769	691	583	376	196	63	13	2		
Tulsa, Okla.						1	2	10	29	73	159	265	458	595	611	647	688	696	671	752	698	616	409	281	111	29	3		
Medford, Ore.								4	1	9	68	270	667	908	1119	1083	1012	898	713	569	432	299	251	211	132	55	12	1	
Portland, Ore.								1	4	10	40	183	383	772	1218	1273	1276	1316	1008	581	373	231	126	54	23	6	1		
Salem, Ore. (S)								+	3	20	46	172	435	707	1100	1398	1398	1163	833	540	405	268	169	102	47	14	3	+	
Harrisburg, Pa.					+	1	4	18	38	121	288	487	749	888	788	699	634	698	737	884	807	596	375	201	60	13	1		
Philadelphia, Pa.								9	38	100	189	335	634	818	738	708	661	710	735	809	863	655	480	285	74	17	1		
Pittsburgh, Pa. (S)						1	7	30	60	138	233	360	568	778	688	631	587	637	678	798	916	722	503	311	98	12			
Scranton, Pa. (S)						2	6	21	48	128	268	388	573	898	805	668	598	689	719	784	804	666	413	254	83	14			
Providence, R.I.						1	4	9	28	84	163	273	468	789	829	730	763	768	765	888	798	668	434	229	86	23	2		
Charleston, S.C.										1	27	79	198	382	434	576	651	787	889	1090	1267	1143	726	425	137	20	1		
Columbia, S.C.								+	2	14	56	138	299	411	583	693	873	722	908	895	1113	980	667	489	202	58	11	1	
Huron, S.D.	1	7	21	56	83	145	208	268	307	419	476	573	698	578	508	488	513	569	614	686	554	443	318	205	103	37	9	+	
Rapid City, S.D. (S)		1	5	10	16	29	128	184	246	373	480	594	758	694	675	681	638	666	695	790	688	570	375	198	108	32	10	1	
Chattanooga, Tenn.							2	4	14	44	113	238	414	553	698	678	713	722	775	895	1021	703	554	405	221	56	9	+	
Knoxville, Tenn.						+	2	7	21	41	101	217	436	580	648	698	672	675	746	888	1056	796	595	354	151	28	3		
Memphis, Tenn.					+	+	+	4	10	25	78	196	378	538	614	634	618	680	734	798	877	718	670	480	306	102	18	+	
Nashville, Tenn.					1	1	3	9	28	67	138	268	468	586	687	630	647	687	738	838	933	814	588	443	287	66	11	1	
Amarillo, Tex.				+	2	2	6	21	52	124	213	378	597	647	640	651	684	668	729	819	787	600	478	309	257	95	14	1	
Austin, Tex								+	1	7	10	46	115	213	311	406	417	478	717	938	1016	1298	842	607	478	242	48	2	
Brownsville, Tex.											1	6	6	35	116	205	385	498	643	906	1357	1878	1344	833	438	19	+		
Corpus Christi, Tex.										+	3	9	27	83	180	308	446	553	748	1081	1173	1538	1408	785	425	35	1		
Dallas, Tex.								1	4	17	38	91	233	372	508	576	689	666	693	795	831	548	390	668	423	273	72	9	+
El Paso, Tex.								+	2	10	38	104	233	368	498	611	687	760	798	838	933	888	738	508	308	203	44	4	
Ft. Worth, Tex. (S)								1	3	12	44	138	298	488	538	591	648	688	689	778	884	968	788	595	340	236	53	3	
Galveston, Tex.										1	2	6	27	77	178	336	397	717	1000	1062	1006	1144	1763	839	59	1			
Houston, Tex.											2	4	18	64	181	291	458	570	681	778	980	1172	1611	940	677	327	55	1	
Laredo, Tex.										+	1	8	27	88	198	383	477	563	687	898	958	1386	1161	801	525	160	18	2	
Lubbock, Tex. (S)						+	1	5	7	33	86	180	386	490	586	680	618	648	700	688	888	833	708	514	347	122	18	2	
Midland, Tex. (S)								1	5	23	80	163	377	483	608	669	631	698	720	793	914	865	673	532	325	177	28	1	
San Antonio, Tex.								1	1	4	11	31	94	180	287	385	560	660	780	963	1086	1336	873	620	470	230	21	+	
Waco, Tex. (S)									1	3	24	84	216	354	508	558	651	692	701	830	909	1101	829	612	482	298	52	1	
Wichita Falls, Tex. (S)							+	4	10	27	114	288	488	607	581	636	687	606	677	714	784	825	731	560	405	250	83	2	
Salt Lake City, Utah				+	+	2	16	44	80	198	388	564	798	831	755	685	688	655	614	615	569	447	368	278	196	65	8	+	
Burlington, Vt. (S)	1	2	5	17	38	81	145	216	278	298	401	560	798	716	647	605	665	684	709	670	573	368	188	53	9	1			
Norfolk, Va.								1	4	14	41	123	272	458	787	788	668	737	880	980	1079	916	584	297	136	18	1		
Richmond, Va.							1	2	10	27	138	285	498	638	808	673	660	765	788	860	953	728	483	241	103	16	1		
Roanoke, Va. (S)							1		11	28	106	307	533	708	710	718	685	704	758	884	988	680	499	305	91	8			
Seattle-Tacoma, Wash.								1	20	38	106	267	614	1408	1385	1460	1228	750	448	298	123	60	24	5	2				
Spokane, Wash.			+	1	8	16	38	58	98	153	308	685	1060	978	853	808	786	715	633	585	414	298	218	136	66	16	1			
San Juan, P.R. (W.I.)																			10	276	1717	3584	5840	980	19				
Charleston, W. Va. (S)						1	7	28	73	191	298	396	630	633	607	687	669	686	787	860	918	606	471	270	57	3			
Green Bay, Wisc. (S)			2	10	18	35	160	278	381	373	515	689	800	698	598	588	598	720	758	668	478	331	176	65	9				
Madison, Wisc.	1	1	4	8	16	28	106	168	261	381	468	688	884	682	488	586	595	698	715	686	507	358	230	142	50	8	+		
Milwaukee, Wisc.		1	2	4	10	17	81	116	176	285	383	698	913	778	681	588	585	698	768	793	597	398	286	96	18	6	+		
Casper, Wyo.		2	3	13	20	35	73	116	200	386	485	683	806	838	788	870	606	658	588	538	483	387	283	208	65	3			

New Data to be inserted.

The Heat Pump Story

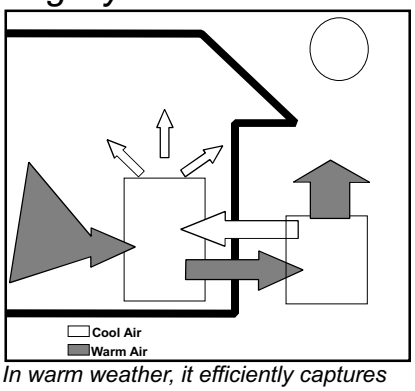
Special Features of the Heat Pump Cooling-Heating System

Amana Packaged Terminal Units are engineered to ensure an efficient heat pump operation while monitoring room conditions to maintain comfortable temperature levels.

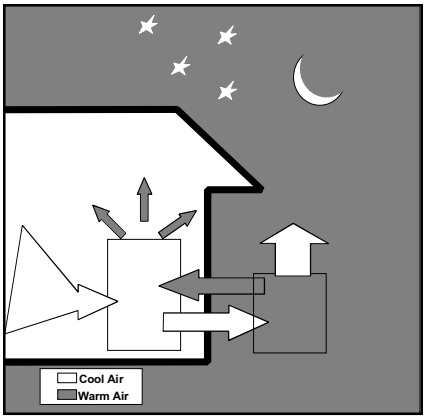
Heat pumps cost less to operate than units with electric resistance heaters as the only heat source because they *save* energy. The measure of this efficiency, COP (Coefficient of Performance) indicates a heat pump's relative efficiency as it compares to electric resistance heat. For example, if a unit has a COP of 3.0, that unit will produce three times as much heat at rating conditions for the same electrical input wattage as an electric resistance heater.

In hot weather, Amana heat pump units remove heat from indoor air and release it outdoors like normal air conditioners. In cool weather, Amana heat pump units take heat from outdoor and use it to heat indoor air. Heat is not *produced*, it is *transferred* which translates to money savings and quick cost payback.

As the outdoor temperature falls, the heat pump is able to extract less heat from the outdoor air to raise the temperature of the indoor air. For this reason, all packaged terminal heat pumps also have electric resistance heaters as backup to heat pump operation. At some point the heat pump is unable to provide sufficient heat to adequately warm the room. Many Packaged Terminal Heat Pumps cease heat pump operation and automatically switchover to electric heat. The compressor and outdoor fan stop and the indoor blower circulates warm air. When outdoor temperatures rise, heat pump operation resumes.



In warm weather, it efficiently captures heat from inside your home and pumps it outside for cooling comfort.



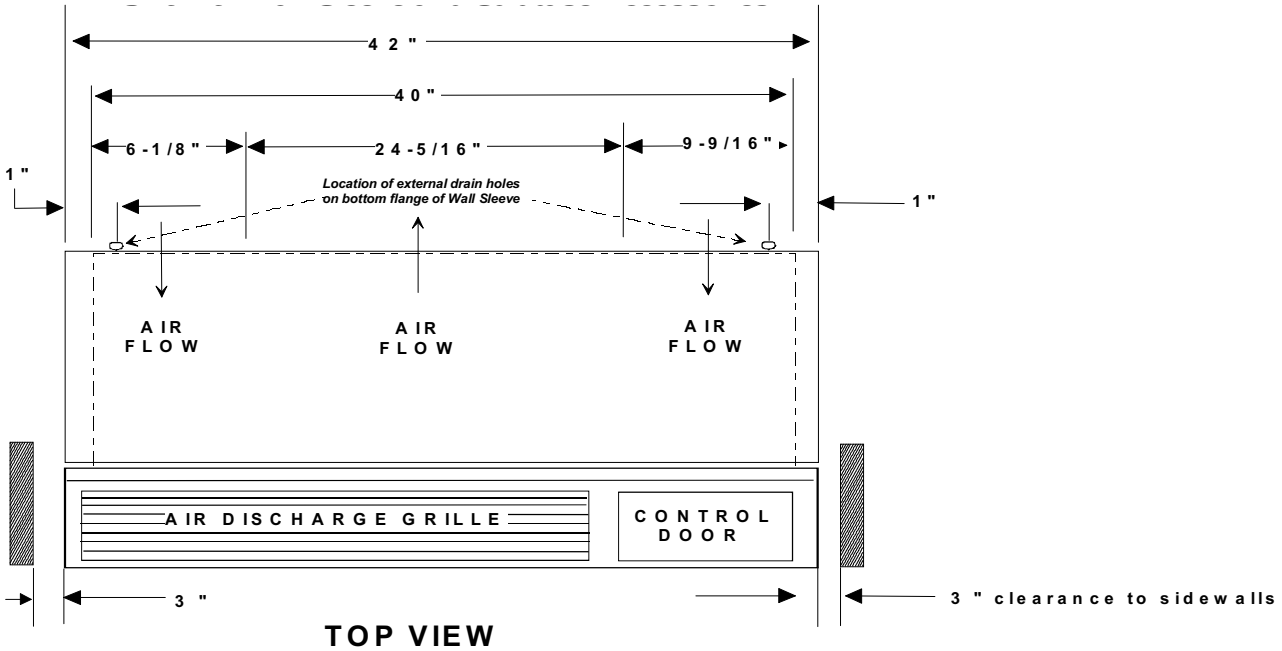
In cool weather, it captures heat from outdoor air and pumps it into your home, adding heat form electric heat strips as necessary to efficiently provide heat.

Heat Pump Heating Sequence of Operation

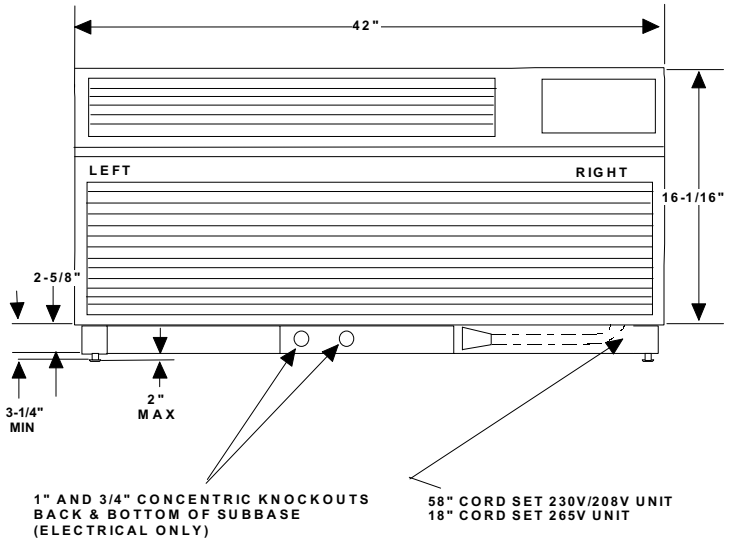
Unit Conditions			**Unit Control**		
Operation Sequence - Call for Heat	Room Temperature vs. Set Point	Outdoor Coil Temperature	Standard Unit Control	Remote Thermostat 1-stage Heat	Remote Thermostat 2-stage Heat
Low/High Heat	Minus 1.5	>25ºF	Heat Pump until set point is reached or room temperature is minus 2.5		
	Minus 1.5	<25ºF	Electric Heat until set point is reached		
	Minus 2.5		Electric Heat until set point is reached		
1st Stage Heat		>25ºF		Heat Pump until set point is reached	Heat Pump until set point is reached or 2nd stage is called
		<25ºF		Heat Pump until set point is reached	Electric Heat until set point is reached
2nd Stage Heat		>25ºF			Electric Heat until 2nd stage satisfied then return to 1st stage
		<25ºF			Electric Heat until set point is reached

NOTE: 1. With all remote thermostat operations the fan speed will be low unless the high speed fan kit is installed.
2. An Auto Change-over Thermostat will not change the above operational sequence.

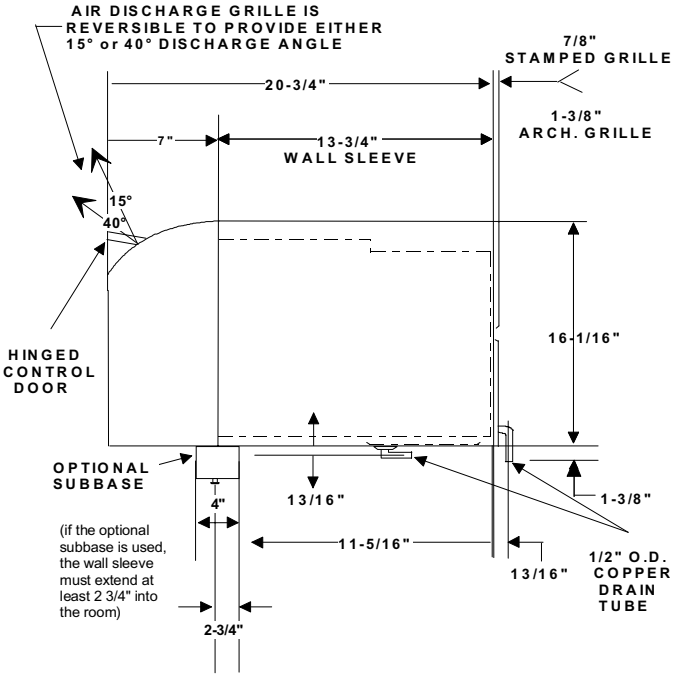
Unit with Wall Sleeve and Subbase Accessories



TOP VIEW



FRONT VIEW

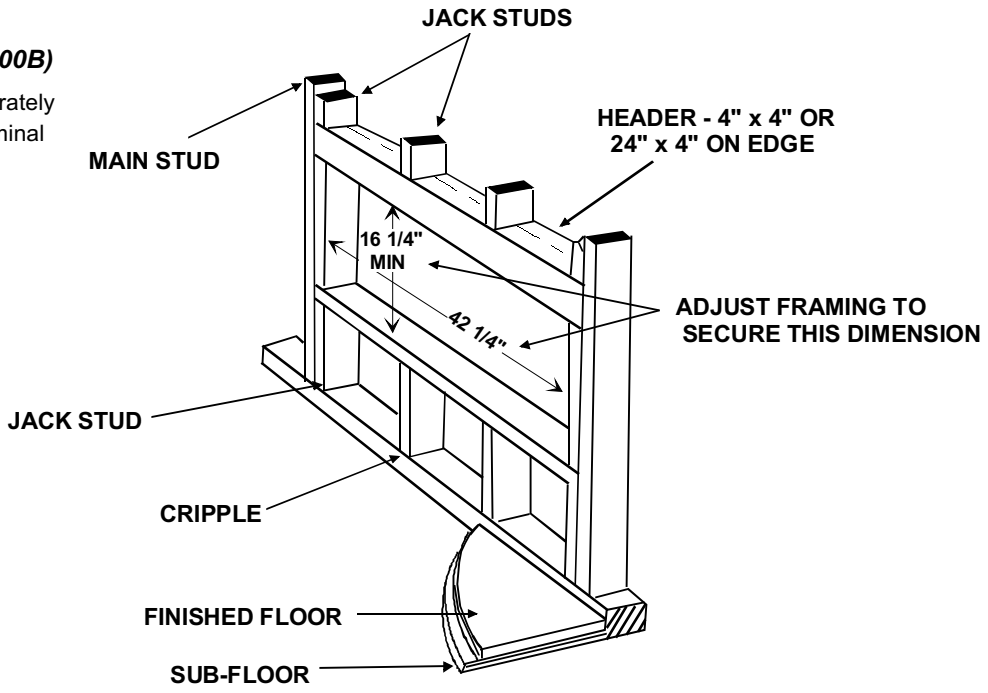


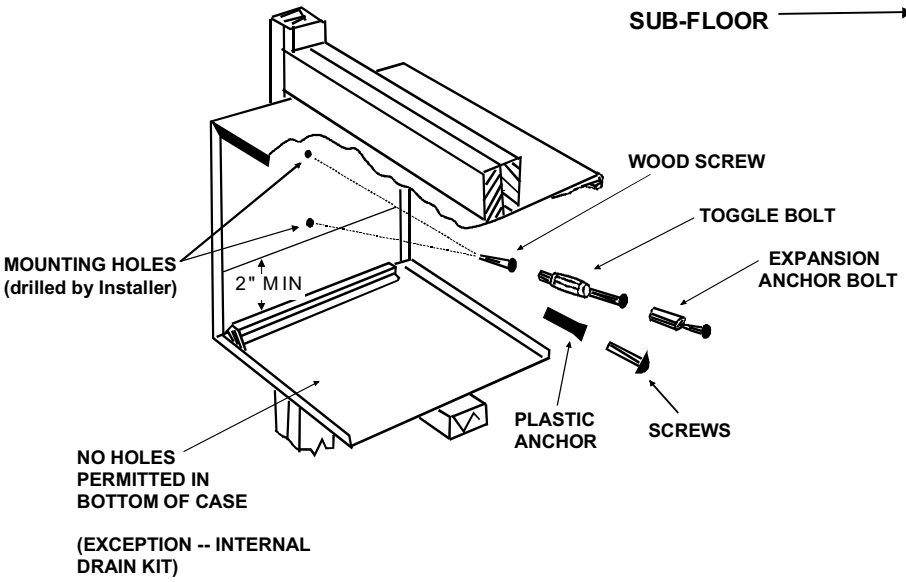
RIGHT SIDE VIEW

Wall Sleeve Installation

FRAMING FOR WALL SLEEVE (WS900B)

The Amana wall sleeve, which is sent separately from the unit, fits all Amana Packaged Terminal Units.





FASTENING WALL SLEEVE

When installed in opening, the Wall Sleeve must be horizontally level (side by side and pitched **1/4 bubble** to the outside. (***NOTE:*** *To ensure unit's maximum efficiency,* ***DO NOT*** *over- or under-pitch.)*

INSTALLATION NOTES

(1). If **Subbase** (PTSB***C) is installed, allow minimum 3-1/4" height clearance and maximum 5" height clearance between cabinet and floor; allow minimum 2-3/4" height clearance from wall to front of wall sleeve.

(2). **Drain Kit** (DK9001) shipped separately. Can be mounted either right side, left side, or bottom of sleeve. If mounted to bottom of sleeve, allow 2" height clearance from floor to bottom of sleeve.

(3). For U.L. approval -- 265v units must use Amana **Subbase** (PTSB***C) or Amana **Hard Wire Kit** (PTPWHWK4). Over-current protection on 265V units must be by cartridge style time delay fuses **which are included and factory installed on Amana chassis.**

(4). If **Hydronic Kit** (HWK03 or HVK03) is installed, **Wall Sleeve** must extend exactly 3 inches into the room from finished interior wall.

Amana Sea Coast Protection Units -- Special Order

To further protect units from the damaging effects of salt in sea coast areas or other highly corrosive materials, Amana does the following additional process:

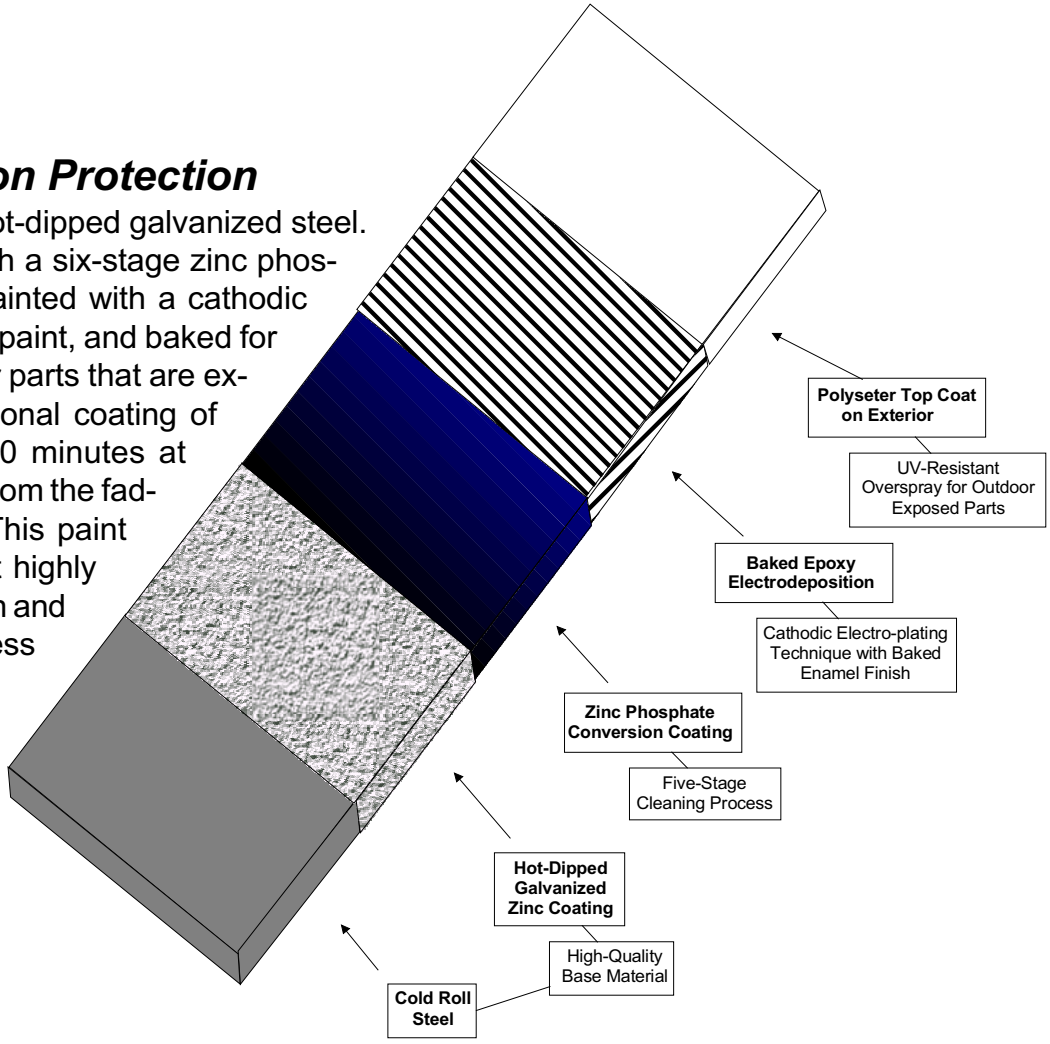
1). The condenser coil is painted with the cathodic electro-plating technique, giving the coil a highly effective corrosion barrier.

2). The bottom 1/4 of the compressor is coated with a water-borne resin, a coating used for the undercoating of automobiles and for protecting buried pipes and cables. The resin is a highly effective barrier against rust and corrosion.

3). The outdoor side of interior parts are top-coated: the base pan weldment, the left- and right-side panels and the condenser shroud. The motor mount for the condenser motor, the evaporator scroll, evaporator air inlet panel, air inlet rings, and front support brackets are also electro-plated.

Paint System Corrosion Protection

All Amana units are built with hot-dipped galvanized steel. Metal parts are then run through a six-stage zinc phosphate cleaner/pre-treatment, painted with a cathodic electroplating of an epoxy resin paint, and baked for 20 minutes at 350°F. All exterior parts that are exposed to sunlight get an additional coating of polyester and are baked for 20 minutes at 350°F for additional protection from the fading effects of ultraviolet rays. This paint process makes the Amana unit highly resistant to normal rust, corrosion and fading. It is the best paint process in the industry today.


Polyseter Top Coat on Exterior
UV-Resistant Overspray for Outdoor Exposed Parts
Baked Epoxy Electrodeposition
Cathodic Electro-plating Technique with Baked Enamel Finish
Zinc Phosphate Conversion Coating
Five-Stage Cleaning Process
Hot-Dipped Galvanized Zinc Coating
High-Quality Base Material
Cold Roll Steel

Hydronic Heat

Hydronic Models / Water and Steam Valves

These special models are shipped without a chassis front, without electric heat, and have an additional relay and 40VA transformer for water or steam valve operation. In addition, water and steam valves are available for use with the HHK03 (water) and HVK03 (steam) heat kits. These valves are available in 24 volt, two- or three-way flow, and either with Normally Open or Normally Closed position. All water valves are equipped with end switches.

Hydronic with Manual Door

Model Number	Voltage Capacity	Cooling Capacity	EER
PTC093A00HA	230/208	9,000/8,800	11.1
PTC123A00HA	230/208	12,200/12,00	10.8
PTC153A00HA	230/208	14,200/14,000	9.4
PTC094A00HA	265	9,000	11.1
PTC124A00HA	265	12,200	10.8
PTC154A00HA	265	14,200	9.4

Hydronic with Powered Door

Model Number	Voltage Capacity	Cooling Capacity	EER
PTC093A00GA	230/208	9,000/8,800	11.1
PTC123A00GA	230/208	12,200/12,00	10.8
PTC153A00GA	230/208	14,200/14,000	9.4
PTC094A00GA	265	9,000	11.1
PTC124A00GA	265	12,200	10.8
PTC154A00GA	265	14,200	9.4

Hydronic with Powered Vent and Powered Door

Model Number	Voltage Capacity	Cooling Capacity	EER
PTC093A00FA	230/208	9,000/8,800	11.1
PTC123A00FA	230/208	12,200/12,00	10.8
PTC153A00FA	230/208	14,200/14,000	9.4
PTC094A00FA	265	9,000	11.1
PTC124A00FA	265	12,200	10.8
PTC154A00FA	265	14,200	9.4

Water Valve

Model	Description	Position	End Switch
VW2WNOA	2-Way	Normally Open	Yes
VW3WNOA	3-Way	Normally Open	Yes
VW2WNCA	2-Way	Normally Closed	Yes
VW3WNCA	3-Way	Normally Closed	Yes

Steam Valve

VS2WNOA	2-Way	Normally Open	No
VS2WNCA	2-Way	Normally Closed	No

Hydronic Heat Kit Application Data

Heating Capacity -- Water

GPM	Pressure Drop PSIG		7,000 & 9,000 BTUH Units				12,000 BTUH Units				15,000 BTUH Units			
			200 F EWT		180 F EWT		200 F EWT		180 F EWT		200 F EWT		180 F EWT	
	Coil	2-Way Valve	Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed	
			Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo	Hi	Lo
1.15						11,693								
1.26										12,824				
1.35														14,166
1.35					13,479									
1.45				14,426										
1.51									15,303					
1.62								15,711						
1.63													15,545	
1.65			16,251											
1.79												17,740		
1.95							19,268							
2.1											20,445			

Based on ARI Rating conditions of 70 deg F Entering Air Temp., 200 deg. F Entering Water Temp and 180 deg F Leaving water Temp.

Heating Capacity -- Steam

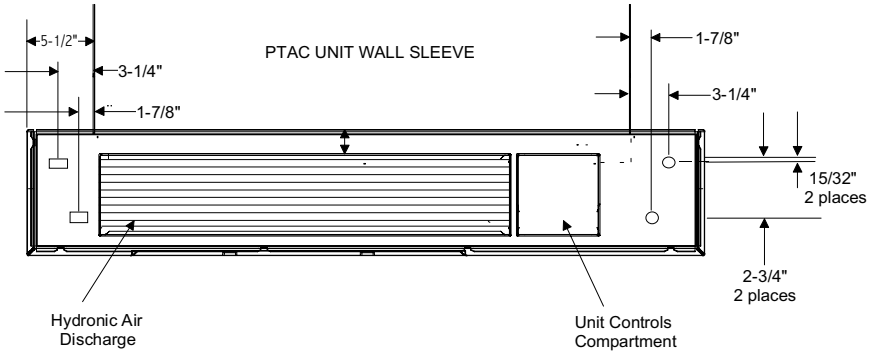
STEAM PSIG	7,000 & 9,000 BTUH Units		12,000 BTUH Units		15,000 BTUH Units	
	Fan Speed		Fan Speed		Fan Speed	
	Hi	Lo	Hi	Lo	Hi	Lo
2	20,236	17,816	21,694	18,306	23,709	
3	20,686	18,253	22,100	19,003	25,676	21,099
4	20,821	18,544	22,822	19,313	26,325	23,678

*Hydronic Heat Kit (HWK**A and HSK**A)*

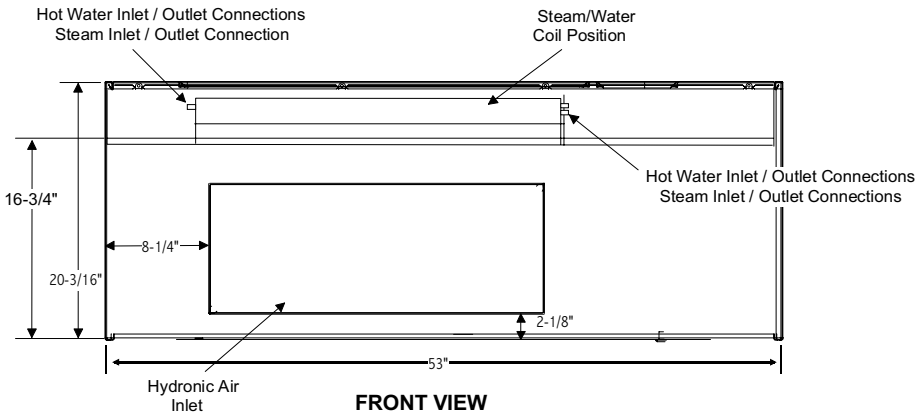
When a central boiler is available, the hydronic heat kit can be installed to the PTAC unit. This kit uses the existing PTAC unit front and completely encloses all plumbing and coils, but still allows easy access to controls. In addition, the chassis can slide out for easy service without removing hydronic plumbing. The kits feature left- or right-hand piping. Unit retains complete service access with kit installed.

Dimensions of Installation:

NOTE: *Wall Sleeve must extend exactly 3 inches from finished interior wall.*



TOP VIEW

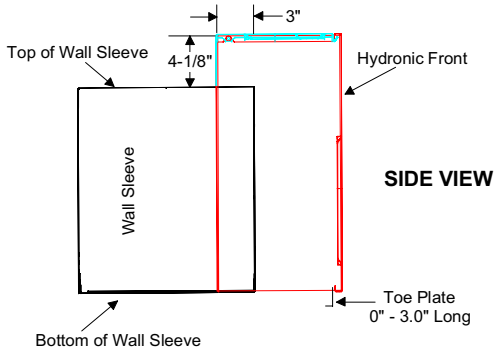


FRONT VIEW

Hydronic Transformater Relay Kit (not shown)

Add-on kit that allows converstion of a standard unit to a Hydronic unit.

Kit Ordering Number	Volts	Description
HTK3	230/208V	Hydronic Water Kit
HTK4	265V	Hydronic Water Kit



SIDE VIEW

Accessories

Hydronic Heat Kit Application Data

Heating Capacity -- Water

			7,000 & 9,000 Btuh Units				12,000 Btuh Units				15,000 Btuh Units			
			200°F EWT		180°F EWT		200°F EWT		180°F EWT		200°F EWT		180°F EWT	
GPM	Pressure Drop PSIG		Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed		Fan Speed	
	Coil	2-Way Valve	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low
1.15						11,693								
1.26										12,824				
1.35														14,166
1.35					13,479									
1.45				14,426										
1.51									15,303					
1.62								15,711						
1.63													15,545	
1.65			16,251											
1.79												17,740		
1.95							19,268							
2.1											20,445			

Based on ARI Rating conditions of 70°F Entering Air Temp, 200°F Entering Water Temp and 180°F Leaving Water Temp.

Heating Capacity -- Steam

	7,000 & 9,000 Btuh Units		12,000 Btuh Units		15,000Btuh Units	
Steam	Fan Speed		Fan Speed		Fan Speed	
PSIG.	High	Low	High	Low	High	Low
2	20,236	17,816	21,694	18,306	23,709	
3	20,686	18,253	22,100	19,003	25,676	21,099
4	20,821	18,544	22,822	19,313	26,325	23,678

Water and Steam Valves

Water and steam valves are available for use with the HWK03A (water) and HSK04A (steam) heat kits. The valves are availalbe in 24 volt, two or three way switches, and with Normally Open, Normally Closed switches.

Water Valve

Model	Description	Position	End Switch
VW2WNOA	2-Way	Normally Open	Yes
VW3WNOA	3-Way	Normally Open	Yes
VW2WNCA	2-Way	Normally Closed	Yes
VW3WNCA	3-Way	Normally Closed	Yes

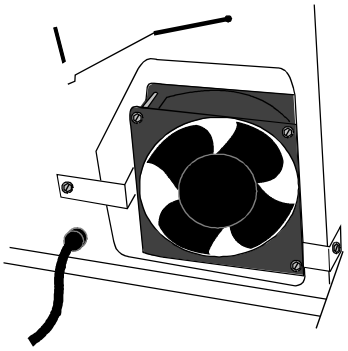
Steam Valve

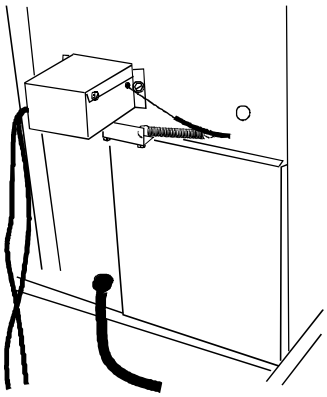
VS2WNOA	2-Way	Normally Open	No
VS2WNCA	2-Way	Normally Closed	No

Power Vent Kit

The Power Vent Kit employs a specially designed fan to deliver approximately seventy cfm of fresh air through the vent during fan operation. It is designed for applications where fresh air ventilation is imperative.

Kit Ordering Number	Volts
PVK3A	230/208V
PVK4A	265V





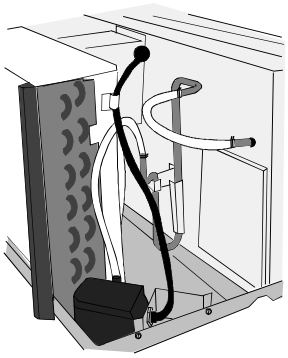
Power Door Kit

The Power Door Kit enables the unit to automatically open or close the vent door depending on fan operation. The Door opens when fan is operating and closes when fan is not operating. This allows for fresh air ventilation during fan operation and saves energy during outside temperature drops.

Kit Ordering Number	Volts
PDK3A	230/208V
PDK4A	265V

Condensate Disposal Pump Kit

The internal condensate pump serves as an effective means for disposing of condensate generated during heat pump operation by transferring it to the indoor coil. The warm coil surface and the warm room air help in evaporation of the condensate while adding humidity to the room. As with any equipment of this type, the addition of this kit will decrease the sensible heating capacity of the unit. This kit is not intended for use in seacoast or corrosive environments.



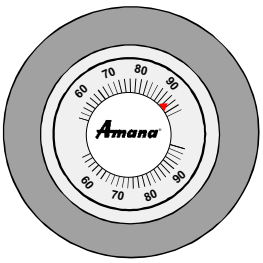
NOTE: Under extreme high humidity conditions, the internal condensate pump may not be able to dispose of all the condensate produced, and condensate would then drip from the outside of the wall sleeve. If this condensation is unacceptable, then a drain system (including factory approved drain kit for the wall sleeve) should be installed.

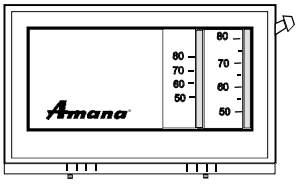
Kit Ordering Number	Volts	Description
CDP302	230/208V	Condensate Removal Pump
CDP402	265V	Condensate Removal Pump
DK900-1	n/a	Condensate Drain Kit

Model Number / Features	THPMFC1H2BA (D9807605)	C5200609	D6853511	D9945801
Manual/Auto	Manual	Manual	Manual	Manual
Programmable	Yes	No	No	No
Cool	1	1	1	1
Heat	2	1	1	2
Emergency Electric Heat	Yes	No	No	No
One Piece	Yes	No	No	No
Shape	Rectangular	Round	Rectangular	Rectangular
Battery Powered	No	No	No	No
24V Powered w/Battery Back-up	Yes	No	No	No
Zoning Application Suitable Zone	Heat Pump Master	N/A	N/A	N/A
For Use With:	PTAC	PTAC	PTAC	PTAC
Color	Beige	Gold	Beige	Beige

Thermostats

The following thermostats offer remote control.

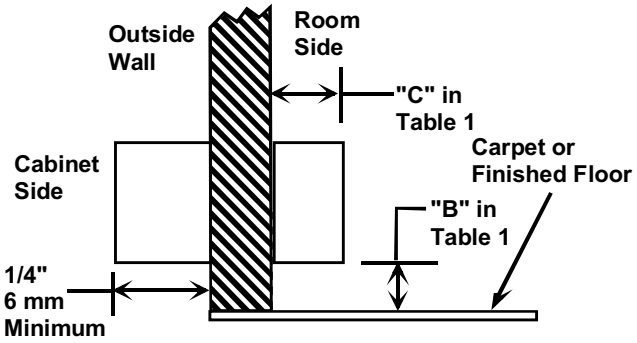




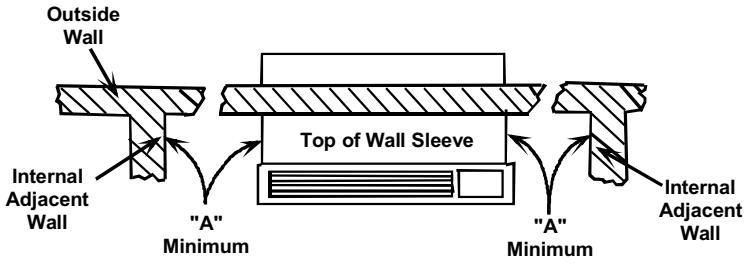
Wall Sleeve Installation

Minimum Clearances and Projections

Installation of accessory kits requires drilling of mounting holes on both sides of the wall sleeve. The minimum required clearnce distance between the wall sleeve and the wall is show in Table 1. If the distance between wall sleeve and wall is at or near the minimum clearance distance, mount these kits on the sleeve before installing the sleeve in the wall.



Minimum Unit Clearances

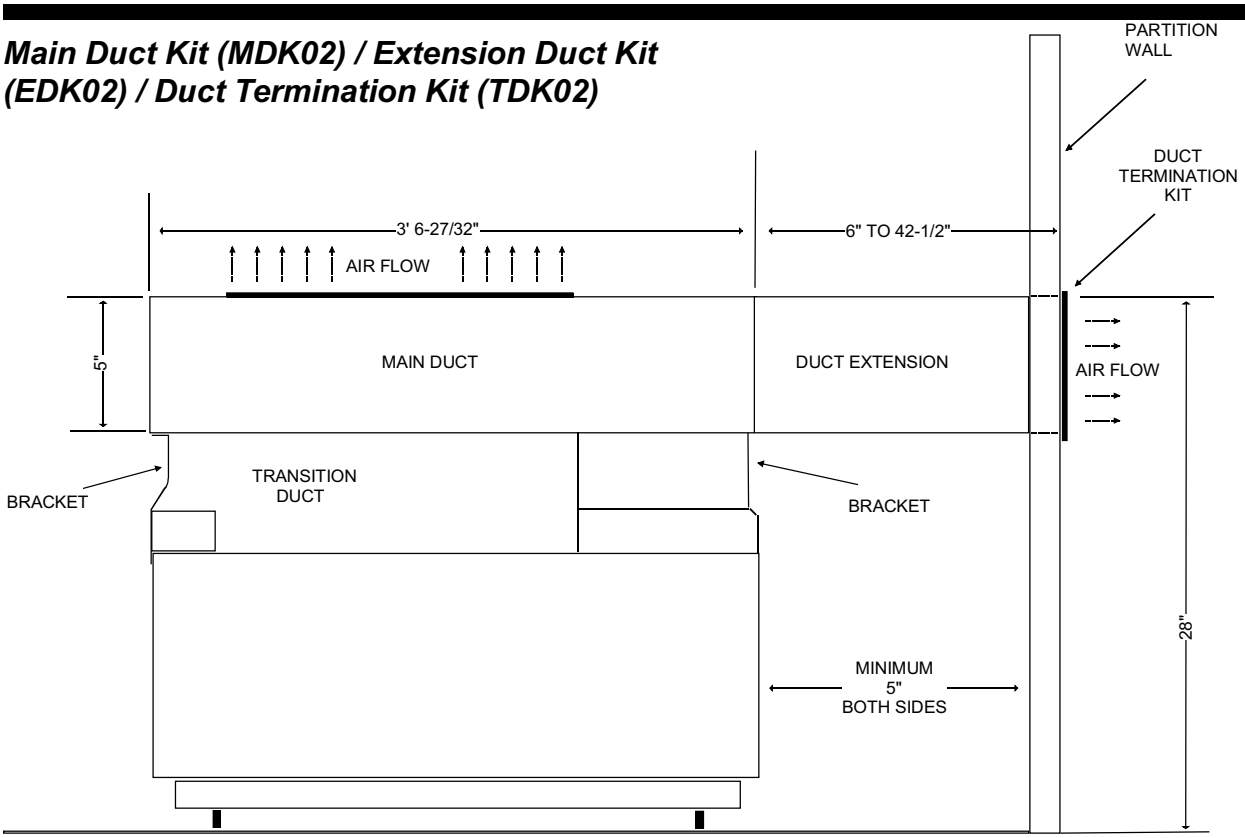


Minimum Interior and Exterior Projections

Minimum Clearances and Projections				
	Minimum Clearances		Minimum Projection	
Option	**Inches**	**mm**	**Inches**	**mm**
Wall Sleeve Only	3	75	0	0
Subbase Kit	3	75	2 3/4	70
Leveling Legs Kit	3	75	2	50
Duct Kit	**3**	**75**	**1 3/8**	**35**
Hydronic Heat Kit "A Series"	**9**	**230**	**3[1]**	**75[1]**
Hydronic Heat Kit "J Series"	**6**	**150**	**2 1/2**	**65**
Drain Kit	3	75	0	0
Hardwire Kit	3	75	0	0

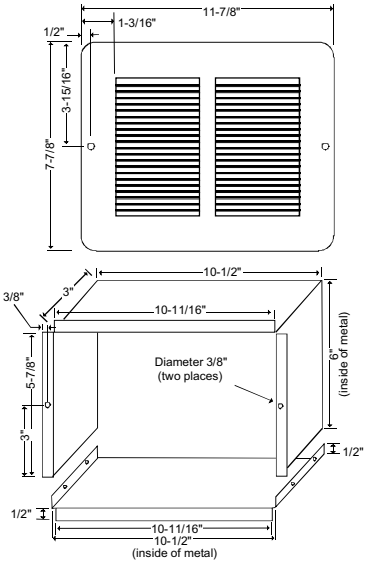
[1] To achieve a flush fit between the hudronic front and the finished wall, the "Minimum Projection" must be between 3" and 3-1/8". If this dimension is more than 3-1/8", there will be a gap between the front and the wall. The gap could permit occupant access to hydronic lines or other dangerous parts.

Main Duct Kit (MDK02) / Extension Duct Kit (EDK02) / Duct Termination Kit (TDK02)



Front View

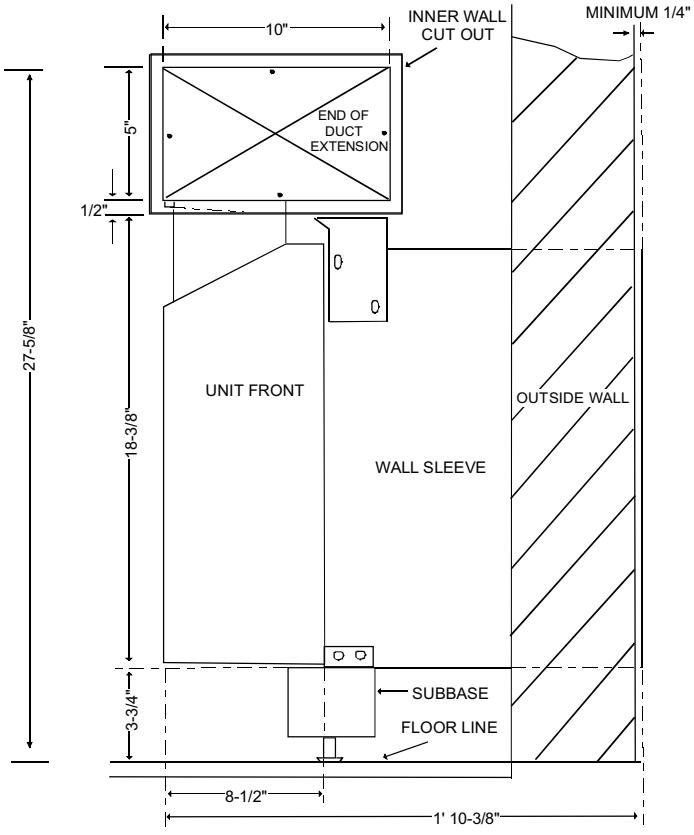
When two adjacent rooms need to be conditioned, a main duct kit and a duct extension kit are possible options. These kits transfer air from one room to another, yet allow different air flows for the rooms (airflow distribution can be adjusted from 65/45 to 80/20.



Duct Termination Kit

The Duct Termination Kit includes a grill and a sleeve for fitting duct or duct extension through the wall.

Kit Ordering Number	Description
MDK02	Main Duct
EDK02	Extension Duct
TDK02	Terminal Duct



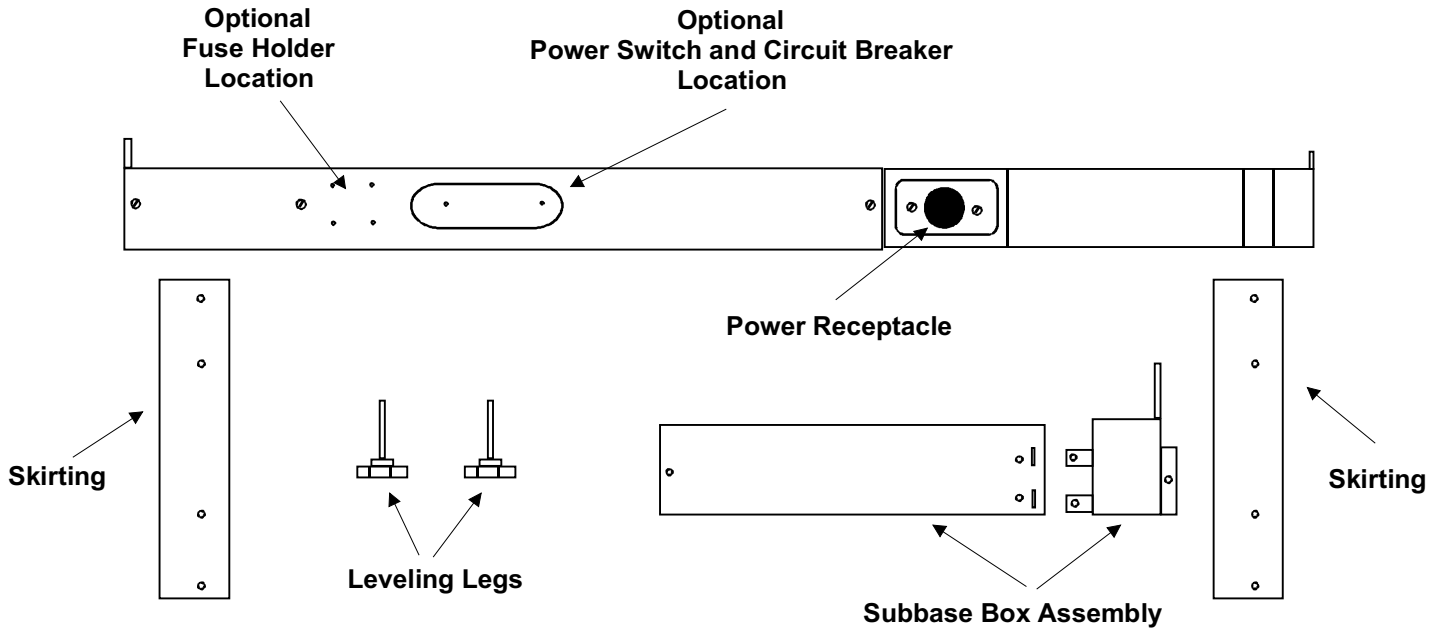
Cutaway or Installation View

Standard Electrical Subbase

*Standard Electrical Subbase (PTSB***C)*

The fully skirted subbase conceals wiring while providing strong support, if needed. Plug-in receptacle and field wiring access speeds installation. Electrical accessories such as fuse holders, circuit breakers, and disconnect switches meet N.E.C. requirements and can be installed in the unit subbase. For subbase locations of these accessories, see the drawing below.

The subbase may be installed onto the wall sleeve either before or after the sleeve installation. The minimum clearance between wall sleeve bottom and the finished floor is 3-1/4"; maximum height clearance from bottom of wall sleeve and the finished floor is 5". The minimum clearance between wall sleeve flange and finished wall is 2-3/4".



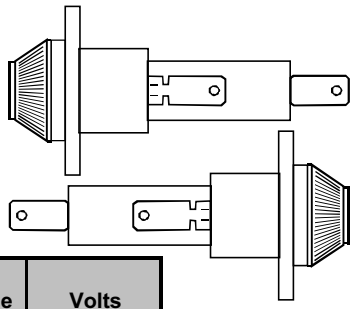
Standard Electrical Subbase

Model Number	Amps	Voltage	Receptacle Configuration
PTSB320C	15 & 20	230/208	NEMA6-20R
PTSB330C	30	230/208	NEMA6-30R
PTSB420C	15 & 20	265	NEMA7-20R
PTSB430C	20	265	NEMA7-30R

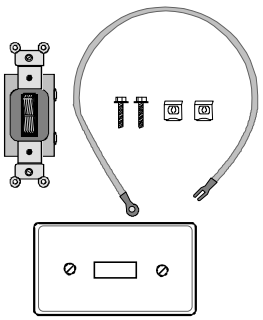
*Fuse Holder Kit (FHK***C)*

An optional fuse holder kit is available for all Amana Packaged Terminal Units . It can be installed directly in the chassis or in the optional subbase (included on 265 volt unit).

Fuse holder kits are available in 230/208 volt ratings at 15, 20, and 30 amp.(Fuses not included, but may be purchased from the parts department).



Kit Ordering Number	Amperage	Volts
FHK315C	15 AMP	230/208V
FHK320C	20 AMP	230/208V
FHK330C	30 AMP	230/208V



Kit Ordering Number	Volts
PSHW03A	230/208V
PSHW04A	265V

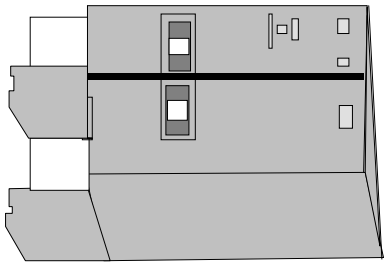
*Power Disconnect Switch (PSHW0*A)*

An optional 230/208 volt or 265 volt power disconnect switch assembly kit can be installed in the chassis on any Amana standard subbase, or in the junction box of the hard wire kit. The switch proves a POWER ON/OFF function as required by some electrical codes.

*Circuit Breaker Kit (CBK3**C)*

The circuit breaker kit can be installed on any Amana full length subbase. Once installed, it provides a POWER ON/OFF and current overprotection function* at the unit. Refer to the table identifying each circuit breaker kit by amperage, voltage, and kit ordering number.

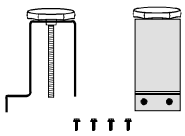
Kit Ordering Number	Amperage	Volts
CBK315C	15 AMP	230/208
CBK320C	20 AMP	230/208
CBK325C	25 AMP	230/208
CBK330C	30 AMP	230/208



**On permanently wired units, if the compressor mode amperage is greater than 6 amps or if total load amperage is greater than 15 amps, the cartridge style time delay fuse must be used (per N.E.C.)*

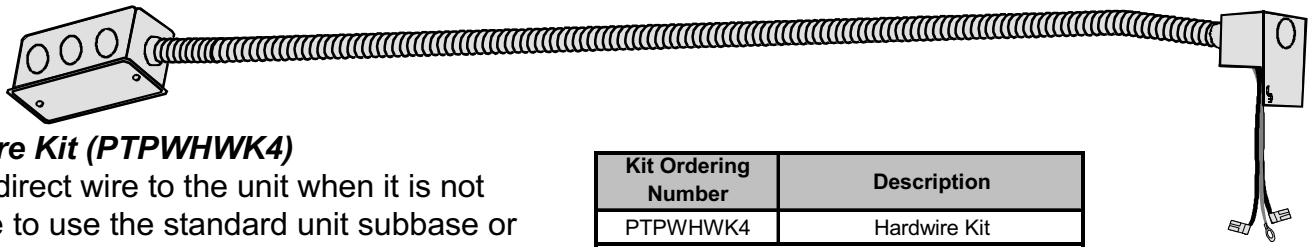
Leveling Legs

Optional leveling legs fit wall sleeve to provide front support and leveling, if required.



Kit Ordering Number	Description
LL-2B	Leveling Legs

Accessories



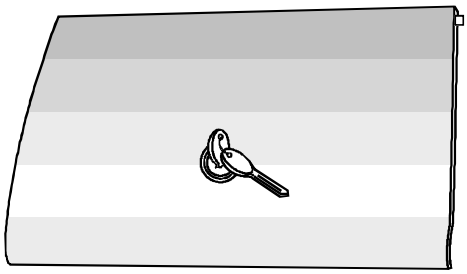
Hard Wire Kit (PTPWHWK4)

Kit Ordering Number	Description
PTPWHWK4	Hardwire Kit

Used to direct wire to the unit when it is not desirable to use the standard unit subbase or the unit power cord. The junction box provides a protected enclosure for electrical connections as required by some electrical codes. Circuit breaker kits (below) can be added to the direct wire subbase.

The hard wire junction box can be mounted either before or after the wall sleeve is mounted in the wall and the unit chassis is installed in the wall sleeve. According to the N.E.C., the hard wire junction box can be installed on flush mounted installations. However, the junction box needs to be located either on the floor or the adjacent wall.

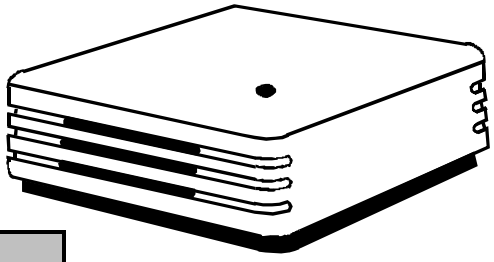
The junction box is furnished with approximately 3-1/2 feet of 1/2-inch flexible steel conduit and a 90-degree conduit clamp for securing the conduit to the unit cabinet at the electrical access opening.



Security Key Locks (KL03)

The Amana Key Lock kit, in conjunction with the tamper-resistant front, prevents tampering of the controls used to set temperature, heating, and cooling functions. This accessory fits all PTAC models. U.L. approved for institutional use only.

Kit Ordering Number	Description
KL03	Security Key Lock



Remote Temperature Sensor (RTS01)

With control functions remaining at the unit, the remote temperature sensing feature is a unique accessory capable of providing accurate sensing of reoom temperature from a central location, separate from the unit.

Kit Ordering Number	Description
RTS01	Remote Temperature Sensor

Spare Filters *(not shown)*

Helps keep dirt and lint out of the air and off the coil, thus increasing unit's efficiency. Amana filters are easy to remove, wash and replace.

Kit Ordering Number	Description
FK10A	Filters (10 / pack)

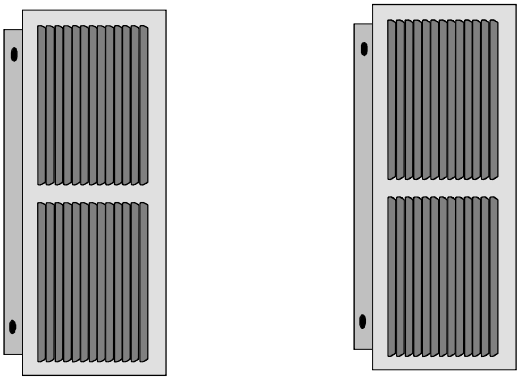
Remote Escutcheon Kit *(not shown)*

Optional kit for use with units controlled via a wall thermostat. Replaces knob controls for units operated by wall thermostat.

Kit Ordering Number	Description
REK10A	Remote Escutcheon Kit (10/Pack)

Condenser Baffle Kit (DGK1)

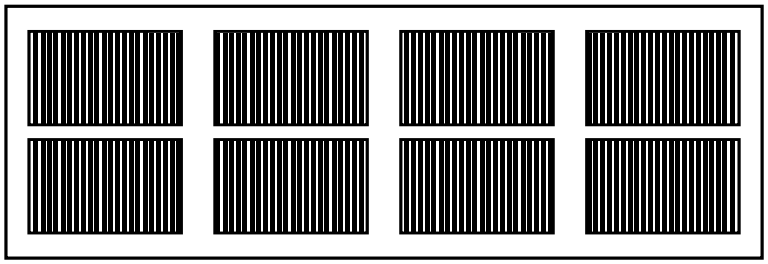
The kit includes two air deflection baffles that mount on the condenser coil. Use the baffles where an older unit is being replaced and the existing grille does not have deflector baffles. These deflectors direct the air in toward the center away from the inlet to prevent recirculation of the hot condenser air.



Kit Ordering Number	Description
DGK-1	Condenser Baffle Kit

*Standard Outdoor Grille (SGK**B)*

The standard outdoor grille is stamped from durable mill finished aluminum, protecting the outdoor components from the harshest weather.



Standard Outdoor Grille	
SGK01B	Single Pack
SGK10B	Ten Pack

NOTES:

1). All grilles must be installed prior to chassis installation.

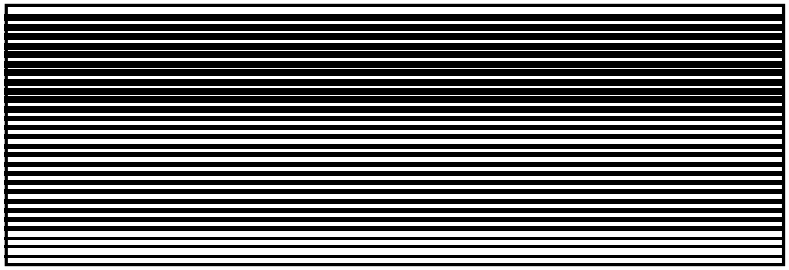
2). If using a DK9001 kit - the drain kit must be installed before the grille is installed.

3). All grilles have handles and install from the inside of the room to allow for easy high-rise installation. Handles should be removed after installation is complete.

*Anodized Architectural Grille (AGK***B)*

The architectural grille is an option which gives an attractive architectural outdoor appearance. The architechtural grille is available in anodized Natural, Driftwood Tan, Dark Bronze, White and Custom colors to blend with building exterior.

Specify color when ordering:CB=Clear; DB=Dark Bronze; ZB=Driftwood;WB=White' SB=Special (Custom) Color



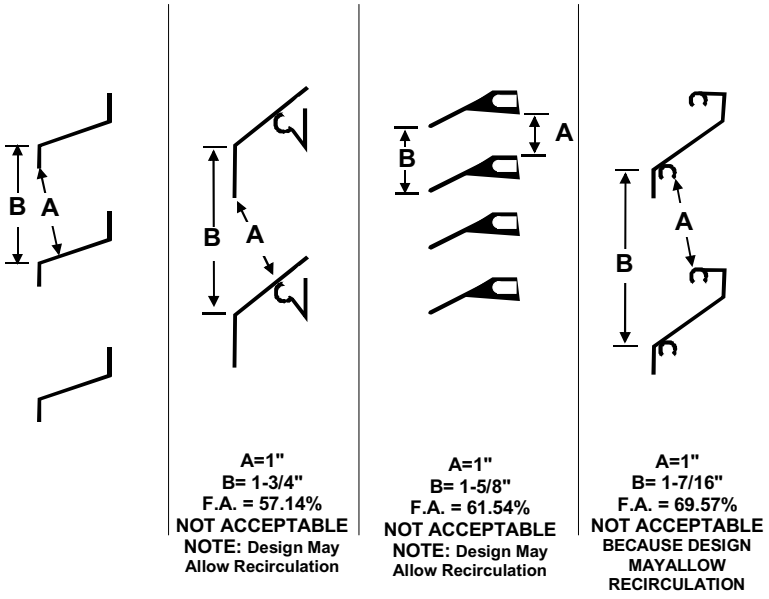
Anodized Architectural Grille	
AGK01*B	Single Pack
AGK10*B	Ten Pack

Special Outdoor Grilles and Exterior Architectural Treatments

Two styles of exterior grilles are available for the Package Terminal Unit (see page A-32). Occasionally however, the design of a building may necessitate the use of special or oversized louvers for aesthetic reasons. Louvers other than standard Amana Exterior grilles may be used on the Amana unit, however, these special louvers, or any special exterior architectural treatments of the building facade may restrict the free circulation of condenser airflow and should be referred to Amana Application Engineering for evaluation and approval. The following guidelines should be followed in selecting a louver:

1. The louver must have a minimum of 65% free area and a blade design that will not cause recirculation of condenser air. ASHRAE defines free area as the minimum area of opening in an air inlet or outlet through which air can pass. Percent (%) free area equals the A dimension divided by the B dimension.
2. The louver should be attached to the wall case in manner that will prevent recirculation of condenser discharge air into the air inlet. If the louver is not attached to the wall case, a field supplied splitter or gasket is required between the chassis and the louver.

It is imperative that the above criteria be followed since a louver design that restricts the passage of condenser air or allows recirculation will reduce the unit's capacity and efficiency, increase the current draw and shorten compressor life. A scale drawing of the louver section should be sent to Amana Application Engineering. To assure the proper performance of the Amana unit and comply with Underwriters Laboratories requirements, it may be necessary to send a sample louver section (at least 16" x 42") to Amana to be tested with the Amana unit.

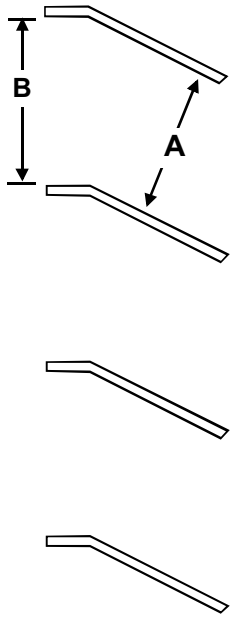


A=1"
B= 1-3/4"
F.A. = 57.14%
NOT ACCEPTABLE
NOTE: Design May Allow Recirculation

A=1"
B= 1-5/8"
F.A. = 61.54%
NOT ACCEPTABLE
NOTE: Design May Allow Recirculation

A=1"
B= 1-7/16"
F.A. = 69.57%
NOT ACCEPTABLE
BECAUSE DESIGN MAYALLOW RECIRCULATION

Examples of Grilles that are not acceptable.



Anodized Architectural Grille (AGKB)***
(shown on preceeding page)

A = 1/2”

B= 3/4”

F.A. = 67.67%

Sample Calculations

Free Area (%) = $\frac{A}{B}$ x 100

A = 1”

B = 1.5”

F.A. % = $\frac{1}{1.5}$ x 100 = 66.7%

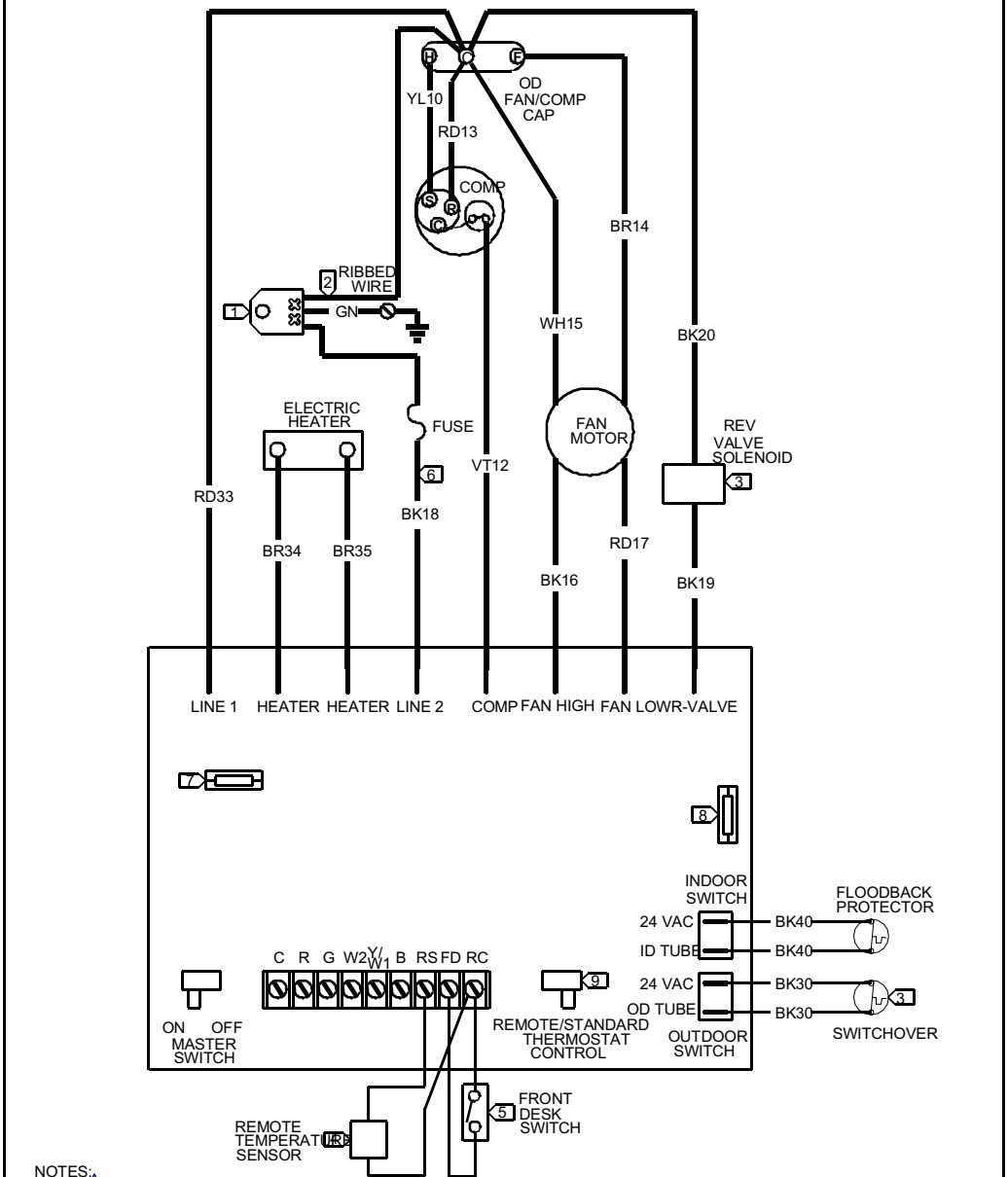
Please Note: *Under no circumstances* should ventilation louvers be used with a Package Terminal Unit. All grilles must be a product approved for Heating & Cooling Products.

REMOTE THERMOSTAT OPERATION			
COOLING UNIT W/ELECTRIC HEAT		HEAT PUMP W/AUXILLARY ELECTRIC HEAT	
FUNCTION	CONNECT R TO:	FUNCTION	CONNECT R TO:
OFF	----	OFF	-----
FAN	G	FAN	G
COOL	G, Y/W1	COOL	G, Y/W1
HEAT	G,B,Y/W1* OR G, W2	1ST STAGE HEAT	G,B,Y/W1
		2ND STAGE HEAT	G, W

1ST STAGE ANTICIPATOR CURRENT: .1
2ND STAGE ANTICIPATOR CURRENT: .2

WIRING DIAGRAM 11172401 REV 0

Typical Standard Unit Wiring Diagram



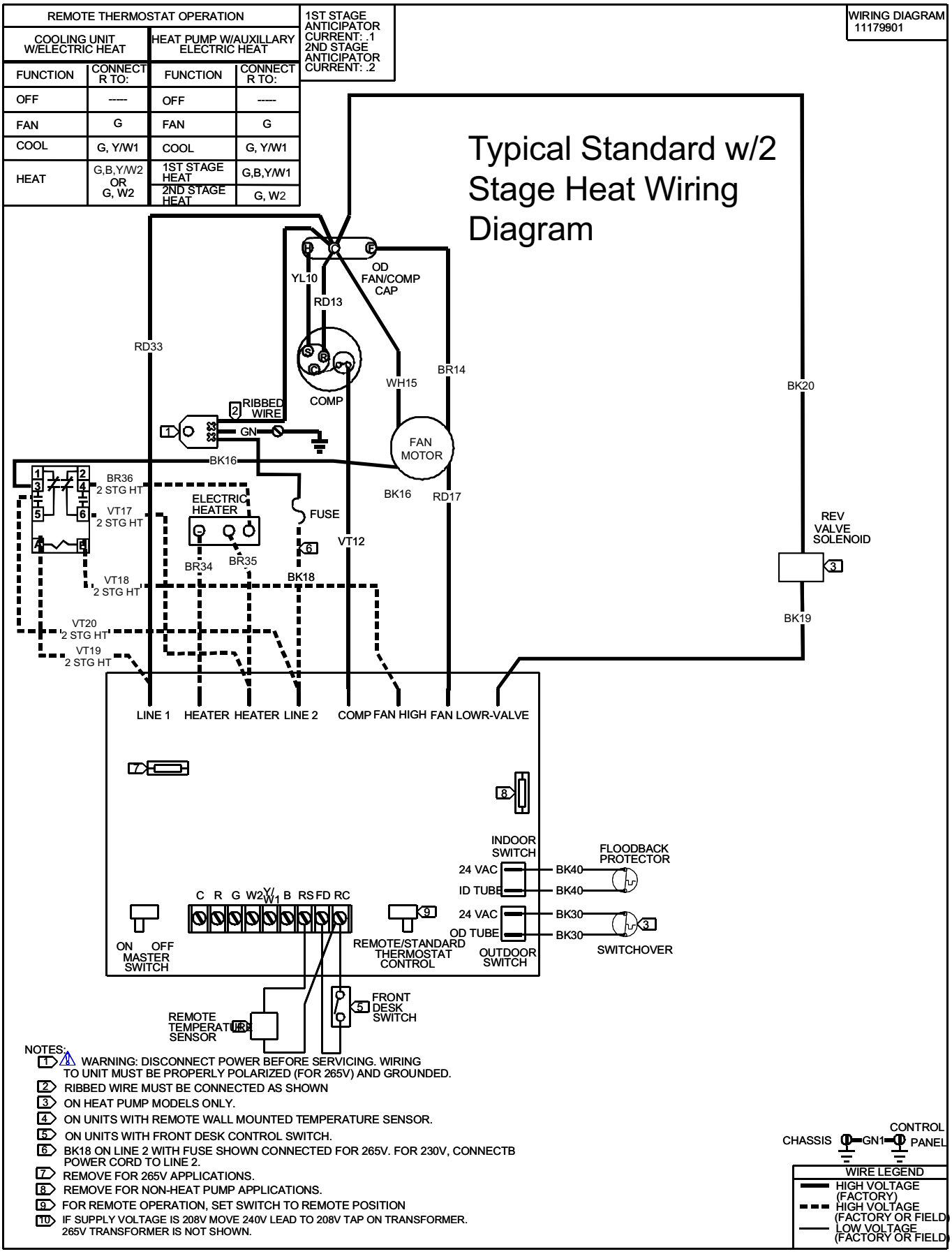
NOTES:

1. ⚠ WARNING: DISCONNECT POWER BEFORE SERVICING. WIRING TO UNIT MUST BE PROPERLY POLARIZED (FOR 265V) AND GROUNDED.
2. RIBBED WIRE MUST BE CONNECTED AS SHOWN
3. ON HEAT PUMP MODELS ONLY.
4. ON UNITS WITH REMOTE WALL MOUNTED TEMPERATURE SENSOR.
5. ON UNITS WITH FRONT DESK CONTROL SWITCH.
6. BK18 ON LINE 2 WITH FUSE SHOWN CONNECTED FOR 265V. FOR 230V, CONNECTB POWER CORD TO LINE 2.
7. REMOVE FOR 265V APPLICATIONS.
8. REMOVE FOR NON-HEAT PUMP APPLICATIONS.
9. FOR REMOTE OPERATION, SET SWITCH TO REMOTE POSITION

CHASSIS GN1 CONTROL PANEL

WIRE LEGEND
- HIGH VOLTAGE (FACTORY)
- HIGH VOLTAGE (FACTORY OR FIELD)
- LOW VOLTAGE (FACTORY OR FIELD)

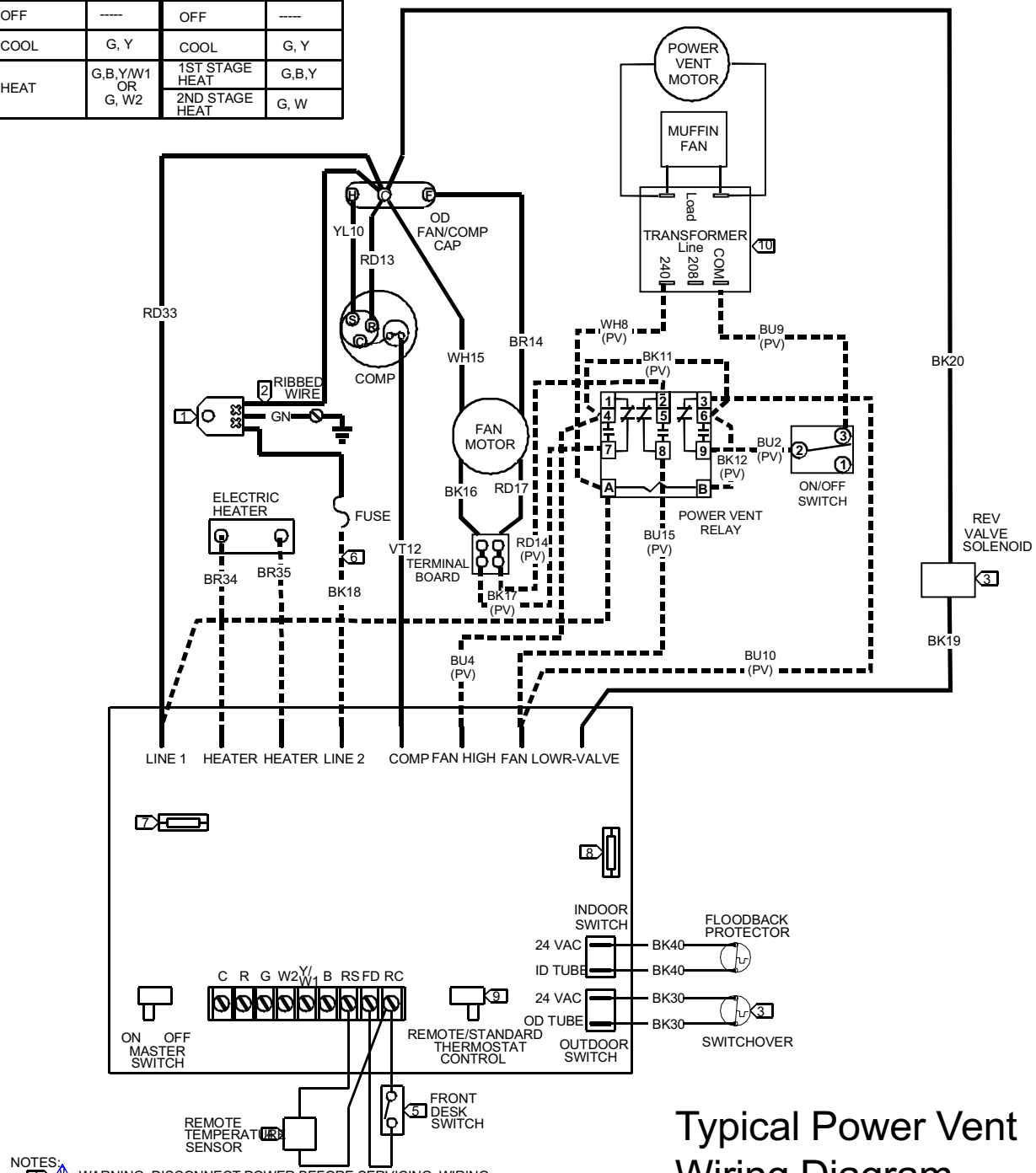
Wiring Diagrams



REMOTE THERMOSTAT OPERATION			
COOLING UNIT W/ELECTRIC HEAT		HEAT PUMP W/AUXILLARY ELECTRIC HEAT	
FUNCTION	CONNECT R TO:	FUNCTION	CONNECT R TO:
OFF	-----	OFF	-----
COOL	G, Y	COOL	G, Y
HEAT	G,B,Y/W1 OR G, W2	1ST STAGE HEAT	G,B,Y
		2ND STAGE HEAT	G, W

1ST STAGE ANTICIPATOR CURRENT: .1
2ND STAGE ANTICIPATOR CURRENT: .2

WIRING DIAGRAM 11143101



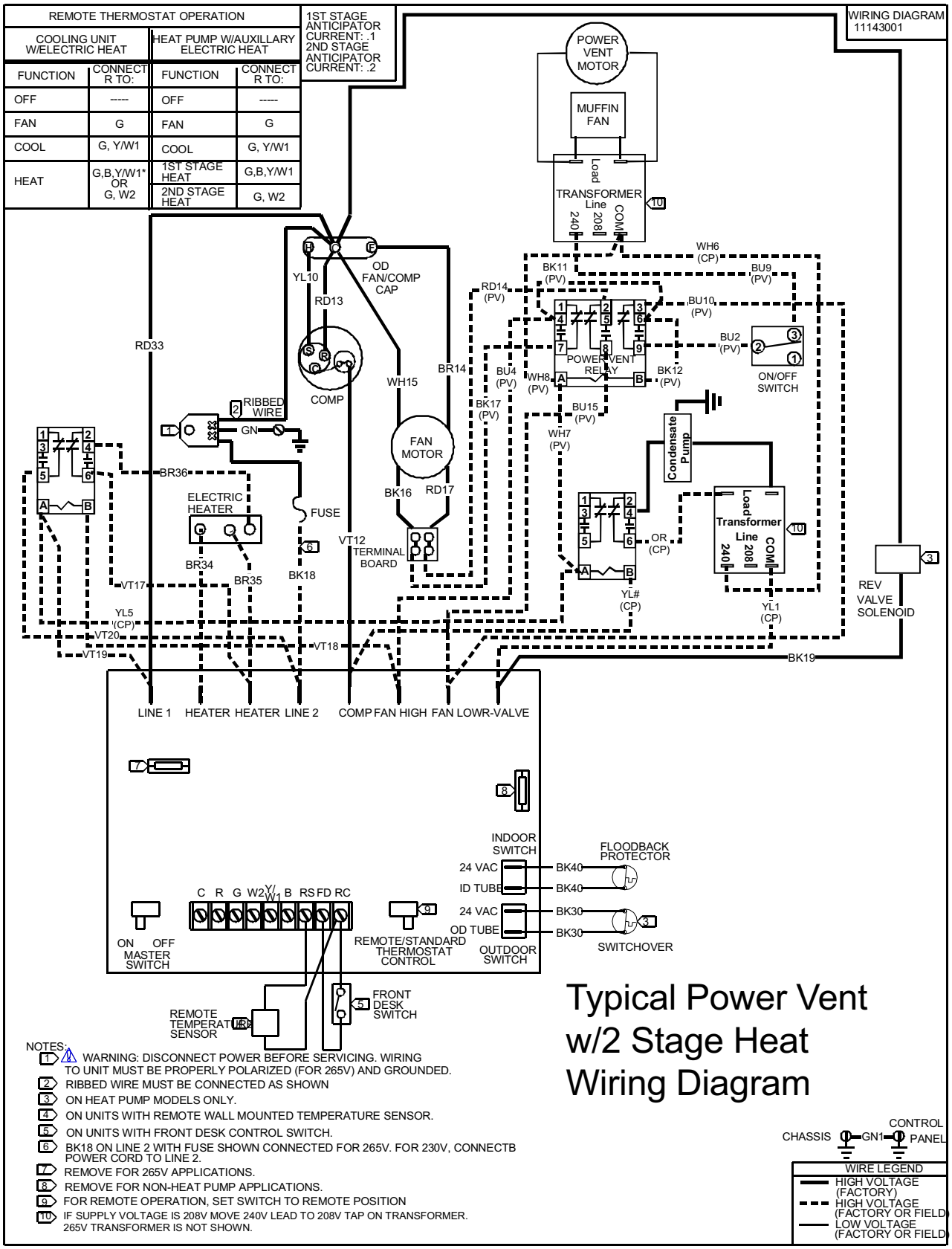
Typical Power Vent Wiring Diagram

NOTES:
1. ⚠ WARNING: DISCONNECT POWER BEFORE SERVICING. WIRING TO UNIT MUST BE PROPERLY POLARIZED (FOR 265V) AND GROUNDED.
2. RIBBED WIRE MUST BE CONNECTED AS SHOWN
3. ON HEAT PUMP MODELS ONLY.
4. ON UNITS WITH REMOTE WALL MOUNTED TEMPERATURE SENSOR.
5. ON UNITS WITH FRONT DESK CONTROL SWITCH.
6. BK18 ON LINE 2 WITH FUSE SHOWN CONNECTED FOR 265V. FOR 230V, CONNECTB POWER CORD TO LINE 2.
7. REMOVE FOR 265V APPLICATIONS.
8. REMOVE FOR NON-HEAT PUMP APPLICATIONS.
9. FOR REMOTE OPERATION, SET SWITCH TO REMOTE POSITION
10. IF SUPPLY VOLTAGE IS 208V MOVE 240V LEAD TO 208V TAP ON TRANSFORMER. 265V TRANSFORMER IS NOT SHOWN.

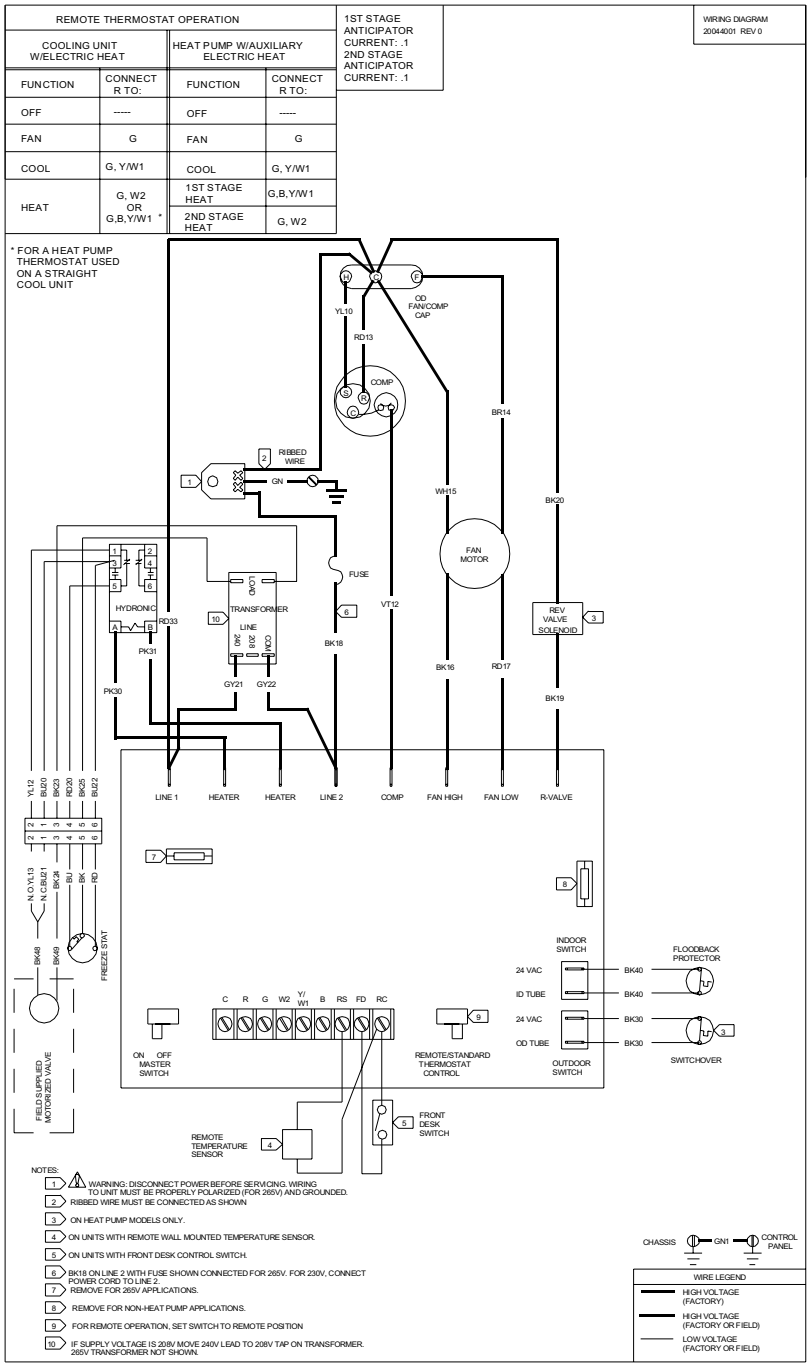
CHASSIS — GN1 — CONTROL PANEL

WIRE LEGEND
- HIGH VOLTAGE (FACTORY)
- HIGH VOLTAGE (FACTORY OR FIELD)
- LOW VOLTAGE (FACTORY OR FIELD)

Wiring Diagrams



Typical Hydronic Unit Wiring Diagram

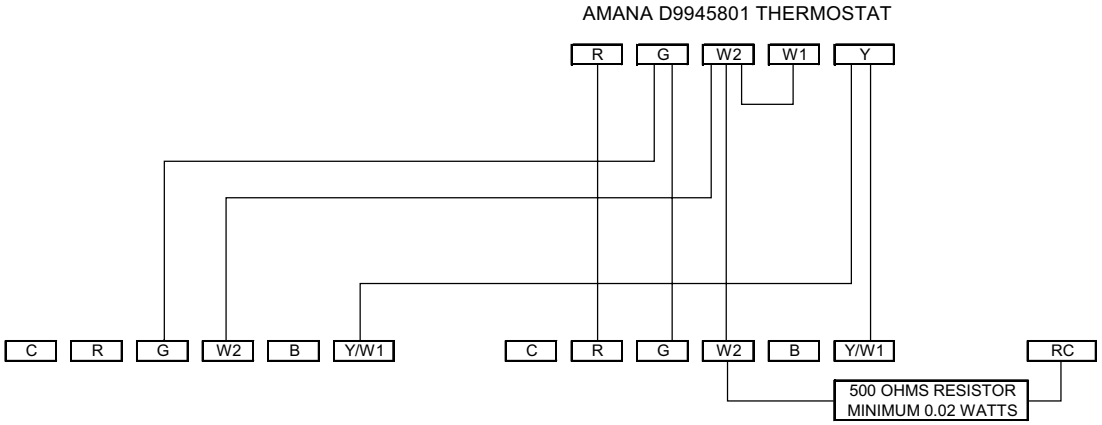


Special Applications

Twinning Information

In a situation where the cooling or heating requirements are greater than the capacity of a single packaged terminal air conditioner or heat pump, it may necessary to utilize a twinning application of the Package Air Terminal Units. Shown below are wiring schematics, using Amana Model D9945801 Wall Thermostat for both an Amana PTH and a PTC.

WIRING SCHEMATIC FOR TWINNING TWO AMANA PTC UNITS
TO AN AMANA MODEL D9945801 THERMOSTAT

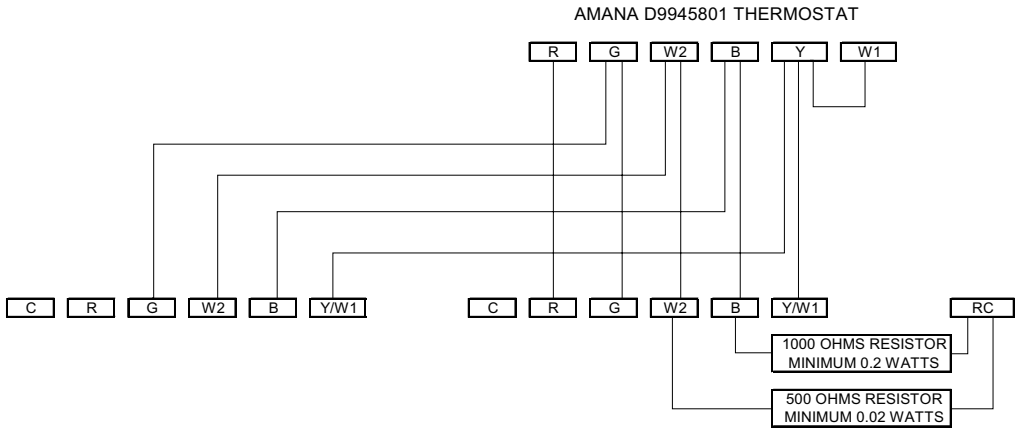


AMANA "A" MODEL PACKAGE TERMINAL COOL UNIT NO. 2

AMANA "A" MODEL PACKAGE TERMINAL COOL UNIT NO. 1

WARNING: DISCONNECT POWER TO ALL UNITS BEFORE MAKING THERMOSTAT CONNECTIONS OR SERVICING ANY UNIT.

PRELIMINARY WIRING SCHEMATIC FOR TWINNING TWO AMANA PTH UNITS
TO AN AMANA MODEL D9945801 THERMOSTAT



AMANA "A" MODEL PACKAGE TERMINAL HEAT PUMPS NO. 2

AMANA "A" MODEL PACKAGE TERMINAL HEAT PUMP NO. 1

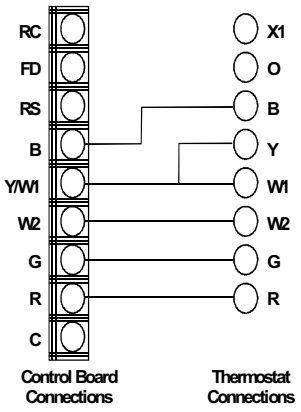
WARNING: DISCONNECT POWER TO ALL UNITS BEFORE MAKING THERMOSTAT CONNECTIONS OR SERVICING ANY UNIT.

Energy Management Systems Information

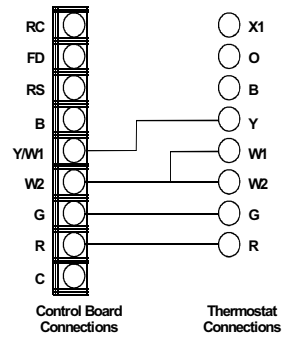
Amana designed the Package Terminal Unit for complete customer comfort and owner peace of mind. Encompassing both these goals, Amana is firm in the pursuance of compatibility excellence in energy management systems. Listed below are general guidelines for interfacing the “A” Model Package Terminal Unit with energy management systems:

- In the remote thermostat mode, the control of this unit is similar to most wall thermostat controlled units. The low voltage terminal strip to wall thermostat connections for heat pump and straight cool with electric heat operations are listed in figure 1. Control of the unit is accomplished by simply switching between the "R" terminal and the other specified terminals. Any wall thermostat or energy management system that is connected to the unit in the remote thermostat mode must be limited to these switching functions.

Figure 1



Wiring Schematic for Remote Heat



Wiring Schematic for Straight Cool Unit

- In the remote thermostat mode, some wall thermostats or energy management systems may draw power from the twenty four (24) volt circuit provided by the control board. The amount of power that can be consumed by any wall thermostat or energy management system is limited to 1.2 watts (1.2 VA) per the note 2 on page 10 of the installation instructions. However, total power draw is only one factor in determining compatibility. The wall thermostats listed on page A-26 have been approved for use with the "A" model PTAC. Any other thermostats that may be applied to the units must be evaluated completely for compatibility. If an energy management system is to be used, a sample unit should be set up at a proposed job site and evaluated by the customer for compatibility.

- Table 1 lists the maximum wire lengths and corresponding wire sizes allowed for the remote thermostat operation.

- In the standard mode, the only energy management interface with the control board is through the front desk control feature. This feature is accomplished by shorting across the "RC" and "FD" terminals on the board through a front desk switch. Closing this switch will disable the unit normal operation and allow only the freeze protection feature to remain operable. This front desk feature can also be used in the remote thermostat mode.

- Table 2 lists the maximum wire lengths and corresponding wire sizes allowed for the front desk switch. The contact resistance of the switch, when closed, must be less than 200 ohms for the front desk feature to work.

- On the front desk "RC" and "FD" circuit, no power can be drawn from this circuit to drive any energy management system. This circuit must be limited to a switch.

Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

Table 1
Maximum Wire Length for Remote Control Connection.

Maximum Wire Length	
Wire Size (AWG)	Maximum Length Allowed
#24	400 ft
#22	600 ft
#20	900 ft
#18	1500 ft
#16	2000 ft

Table 2
Maximum Wire Length for Front Desk Switch.

GUIDE SPECIFICATIONS

Furnish and install air cooled through the wall packaged terminal air conditioners (heat pumps). Units are certified under the ARI (American Refrigeration Institute) certification program and listed by U. L. (Underwriters Laboratories).

Ratings
Each unit must meet the following specifications:

ARI rating of _____BTUH cooling (and _____ BTUH reverse cycle heating with a COP of _____ at 47° F O.D.)

Electric resistance heat of _____ BTUH. Total Amp draw must be of _____ and _____ Watts at _____ volts.

The unit must remove a minimum of _____ pints of moisture per hour when operated at rating conditions. The EER must be a minimum of _____ EER.

Unit Chassis
Each unit must be slide out design shipped with room cabinet front installed. Unit chassis must have the ability to be installed with zero clearance from finished floor. An electrical power cord must be included with chassis and installed by the manufacturer to assure proper NEMA 6 or 7 configuration and UL approved length. Unit must be tested for conformance to ASTME water infiltration specification **ASTME 331-86** which ensures no water infiltration when tested at 8 inches rain per hour at 63 mph wind for 15 minutes.

Room Cabinet
The front of the room cabinet must be able to be field secured to chassis to inhibit tampering. Filter must be accessible without removing room front. Cabinet depth must not exceed 7" to minimize unit's impact on room space.

Heat Pumps
Each unit must include a changeover thermostat that senses an outside coil switch-over temperature of 25° Fahrenheit, lock-open refrigerant reversing valve during heat pump operation, temperature-activated defrost drain and automatic emergency heat operation to override the heat pump's change-over thermostat and bring on electric resistance heaters in the event of a sealed system failure. Unit must not operate compressor and electric heaters simultaneously.

Compressor
The compressor must be hermetically sealed, internally isolated, rotary-type, and permanently mounted on rubber isolators. No removal or adjustment of compressor hold down bolts is to be required during installation.

Unit Controls
The unit's controls must be completely wired and accessible from the top. Controls must include high and low fan speeds for both cooling, heating, and fan only operation, and an OFF position. Other unit controls must include a concealed ventilation control to allow the introduction of filtered air into the room, a concealed fan mode switch to allow the owner to preset for either continuous fan or thermostatically cycled fan operation. Additionally, the following controls are to be included as standard on all units:

- *Compressor restart delay*
- *Random restart circuit*
- *Front desk control*
- *Automatic freeze protection*
- *Remote control capability*
- *Mechanical temperature limiter*
- *Remote temperature sensing capability*

Evaporator/Condenser Fans
Direct drive with a permanent split capacitor two-speed motor. Condensate must be directed onto the condenser coil to aid in evaporation and removal. Condenser fan must be propellor type and evaporator fan must be blower type.

Coils
Unit's coils must have rifled copper tubing expanded into rippled-edge louvered aluminum fins.

Air Discharge
Must be a sloped surface so that obstructions cannot be placed on the unit. Discharge conditioned air can be directed into the room at an angle of 15 or 40 degrees from the vertical position. The discharge grille must be of polycarbonate material to resist bending, cracking, rusting and corrosion.

Warranty
The warranty is for **Full One Year** on the entire unit; **Full Second through Fifth Year** on the entire sealed refrigerant system components; **Limited Second through Fifth Year** on all functional parts only.

ACCESSORIES

*(New installations typically require a minimum of **WS900B** wall sleeve and an outdoor grille.)*

Wall Sleeves
The wall sleeve must be industry standard dimensions: 13-3/4" depth x 42" width x 16-1/16" height and constructed of insulated galvanized steel with electro-deposition paint finish with ULV resistant high-solids polyester overspray. Sleeve must be shipped with weather resistant rear closure panel installed.

Outside Grilles
Must be architectural extruded, anodized aluminum (AGK*** B) or standard stamped aluminum (SGK**B). All other grilles must be submitted to PTAC manufacturer for feasibility, airflow, characteristics and compliance with U.L. regulations, where necessary.

(The optional accessories listed below perform specific functions required in some installations.)

Remote Temperature Sensor
A field installed thermistor will override the unit mounted thermostat to allow more accurate, internal wall-sensing of room ambient temperature. All other modes and functions remain at the PTAC unit.

Condensate Drain Kit
Attaches to the bottom of the wall sleeve for directional controlled internal or external disposal of condensate and defrost water.

Subbase Kit
Necessary for U.L. listing requirements for 265 volt units (Hard Wire Kit may be substituted for Subbase kit). Optional for 230/208 volt units. Must be prewired to facilitate field electrical connections and include a NEMA 6 or 7 configuration electrical receptacle. It must have two leveling screws for sleeve support and accurate unit leveling during installion. Locations for field installation of physical disconnect switches, cartridge-style fuse holders and circuit breakers must be provided. Side-skirts must be provided with subbases.

Power Vent & Damper
Must be provided to maximize fresh air intake to up to 70 CFM. Damper must automatically close when unit is not in a conditioning mode to prevent outside air from entering the room without being heated or cooled.

Fuse Holders (included in 265v models)
Must be installed either in the unit or the subbase and must match the electrical requirements of the chassis.

Security Key Locks
Must be installed to prevent tampering of the unit controls. Unit room cabinet must also be secured to the chassis with field

Duct Kits
A main duct kit, extension duct kit, and duct termination kit must be supplied to duct conditioned air into a second room.

Hydronic Heat Kit
Is required for heating functions instead of electric resistance heaters. Unit must retain complete service access with the kit installed. Proper water or steam valves must be used; however, they are not included in the Hydronic Heat Kit.

Condensate Removal Pump
Must be installed to assist in removing the condensate developed by the heat pump operation and transfer it to the indoor coil to dissipate into the room adding humidity to the room.

Disconnect Switch
Power disconnect switch must be installed in subbase for use as a physical disconnect where required by local codes.

Circuit Breaker Kit
Must be installed in subbase to provide overcurrent protection for proper 230/208 volt amperage. Can also be used as a physical disconnect where local codes permit for 230/208 voltage.

Hard Wire Kit
Must be used to permanently wire chassis for hard wire purposes. (For 265 volt units, Hard Wire Kit may be substituted with Subbase Kit).

Thermostats
Must be installed to provide full remote operation of the chassis. Thermostat must be manual changeover, auto changeover, or programmable.

WARRANTY

PACKAGED TERMINAL PRODUCTS
(PTC, PTH "A" SERIES)

FULL ONE-YEAR WARRANTY

WARRANTY PROVIDES FOR:
FULL FIRST YEAR WARRANTY: Amana will repair or replace, free of charge, any part which proves to be defective due to workmanship or materials.

FULL FIVE YEAR SEALED SYSTEM WARRANTY: Amana will repair or replace, free of charge, the evaporator, condenser, compressor, or connecting tubing which proves to be defective due to workmanship or materials.

LIMITED SECOND THRU FIFTH YEAR FUNCTIONAL PARTS WARRANTY: During the 2nd thru 5th

Sample

WARRANTY LIMITATIONS:
- Warranty is effective as of the original date of purchase.
- All warranty service must be performed by an authorized Amana Servicer.
- Reimbursement for warranty service is limited to normal service charges performed during the servicer's normal business hours.
- Applies only to original installation within the continental United States, Hawaii, Alaska, and

OWNER'S RESPONSIBILITIES:
- Provide proof of purchase (sales invoice).
- Provide normal care and maintenance.
- Make product reasonably accessible for service.
- Pay for service calls related to product installation or usage instructions.
- Pay for replacement of fuses and circuit breakers.
- Under the Limited Warranty, the owner is responsible for servicer's travel charges, labor, parts freight and

AMANA IS NOT RESPONSIBLE FOR:
- Damage as a result of flood, lightning, fire, wind, and accidents beyond Amana's control.
- Damage as a result of product not installed according to Amana's instructions and specifications.
- Replacement of fuses and replacement or resetting of circuit breakers.
- Damage or failure resulting from installation in an environment containing highly corrosive chemical agents.
- Damage or failure resulting from installation in a coastal environment due to corrosion except those specific models (i.e. Seacoast models) which have been treated with factory applied corrosion protection.

*This warranty gives you specific legal rights, and you may have others which vary from state to state. For example, some states do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion may not apply to you. For warranty service, contact an Authorized Amana Servicer.

Should you have a service problem that is not resolved locally,

Write: Customer Relations Department
Amana Refrigeration, Inc.
Amana, Iowa 52204
Or Dial: 1-800-843-0304 between 8:00 AM and 4:30 PM (C.S.T.) Monday thru Friday

Amana®
Heating • Air Conditioning

Amana's continuing commitment to quality products may mean a change in specifications without notice.
Form No. AHC9439 AE 1996 Amana Heating and Air Conditioning, Inc. Fayetteville, Tenneessee Printed in U.S.A.
Certified to ISO 9001/ASQC Q9001 - Registered by A.G.A. Quality Certificate #AQC-01501

Sound Specifications

Amana Pakage Terminal Units are designed and built to be extra quiet for true people-pleasing comfort. Amana isolates sound and vibration with solid construction and heavy insulation to reduce operating sounds and keep outdoor noise where it belongs . . . outdoors.

Heavy steel chassis provides overal stability that withstands compressor and fan vibration. **Heavy steel wall sleeve** is corrosion-treated and insulated on the top and sides to reduce noise and heat transmission. **Isolated compressor** is located behind the bulkhead to confine noise to the outside. **Rubber isolates** under the compressor and **vibration-absorbing refrigerant piping loops** further reduce operating sound.

Leave out of 1st revision as per Paul Dopple

Indoor Sound Table -- Sound Ratings (in decibels)

Selector Switch Position	Volts	Nominal Sizes (Btuh)							
		PTC Models				PTH Models			
		7,000	9,000	12,000	15,000	7,000	9,000	12,000	15,000
FAN ONLY	230	4.8	5.4	5.8	6.2	5.0	5.0	5.8	6.0
LOW COOL	230	5.6	5.8	6.0	6.6	5.6	5.8	6.0	6.2
HIGH COOL	230	5.8	6.0	6.2	6.8	5.8	6.0	6.2	6.6
LOW HEAT	230	4.8	5.4	5.8	6.2	5.4	5.6	5.8	6.2
HIGH HEAT	230	5.2	5.6	5.8	6.4	5.8	5.8	6.2	6.6

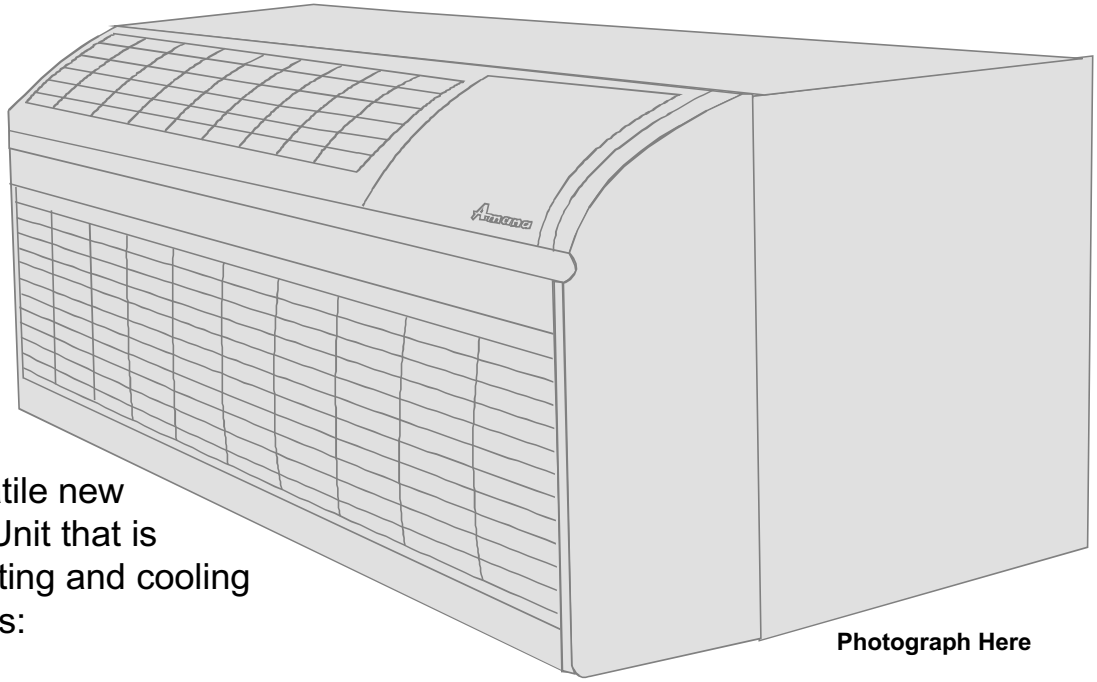
Outdoor Sound Table -- Sound Ratings (in decibels)

Selector Switch Position	Volts	Nominal Sizes (Btuh)							
		PTC Models				PTH Models			
		7,000	9,000	12,000	15,000	7,000	9,000	12,000	15,000
FAN ONLY	230	Not Applicable							
LOW COOL	230	6.4	6.4	7.0	7.4	6.8	7.0	7.0	7.4
HIGH COOL	230	6.4	6.4	7.4	8.0	7.4	7.6	7.4	8.2
LOW HEAT	230	Not Applicable				6.8	6.8	7.2	7.2
HIGH HEAT	230					7.4	7.4	7.4	8.0

Packaged Terminal
Air Conditioners & Heat Pumps

Quality by:

Amana



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A rugged, yet versatile new Package Terminal Unit that is ideal for zoned heating and cooling applications such as:
Hotels & Motels
Nursing Homes & Assisted Living
Office Complexes
Apartments & Condos
Single dwellings
Residential add-ons
Dormitories

Architects and Engineers Manual

A higher standard of comfort

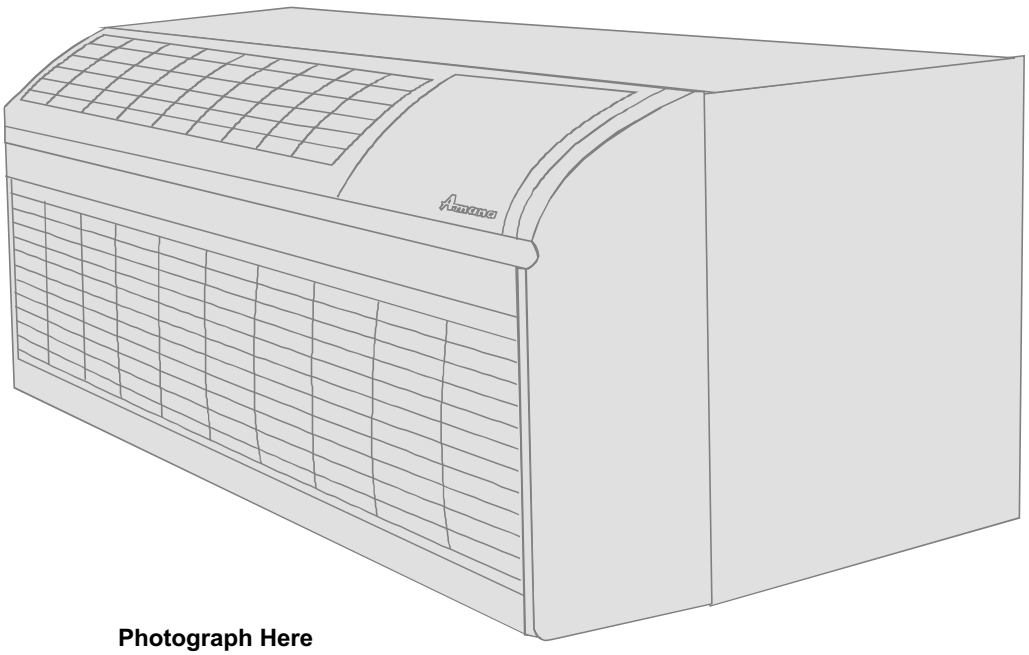
Amana
Raytheon Appliances

Packaged Terminal
Air Conditioners & Heat Pumps

Architects and Engineers Design Data Manual

A rugged, yet versatile new Package Terminal Unit that is ideal for zoned heating and cooling applications such as:

Hotels & Motels
Nursing Homes & Assisted Living
Office Complexes
Apartments& Condos
Single dwellings
Residential add-ons
Dormitories



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